INDEPENDENT ORBITER ASSESSMENT

ASSESSMENT OF THE COMMUNICATION AND TRACKING SUBSYSTEM VOLUME 3 OF 3

18 MARCH 1988

் நார் நார் நார்க்கு அகில் அதில் நாழ்களில் நிருந்திருள்ள நார்களில் நிருந்திருள்ள நிருந்திருள்ள நிருந்திய நிருந்தி

en de la companya de

ASSESSME ASSESSME NASA FME	ENT	II			5/88 TRK-81	.08			N	IASA DA' BASELII NI]
SUBSYSTEMDAC ID:				8108			CMD	SWIT	'CH (F	PEAK)		
LEAD ANA	TTA	3 T :	:	W.C	LONG	;					-	
ASSESSMI	ent:	:										
	CR		ICAL LIGH	ITY T	, F	EDUN	IDANCY	SCR	EENS		CII	
•	F	HDV	W/FU	NC	A	\	В		C	2		
NASA IOA	[3	/3]	[[]	[]	[]	[] *]
COMPARE	[N	/N]	ſ]	[]	[]	[]
RECOMMEN	NDA'	ri(ons:	(:	If dif	fere	nt fr	om N	(ASA)			
	[/]	[]	C .]	Ţ	•]	[(ADD/[] DELETI
			TON	סאידר	NATE:	(Tf	appl	icab	le)			

ASSESSME ASSESSME NASA FME	NT	I		3/05/ COMTR		Ī	NASA DASEL		[]				
SUBSYSTE MDAC ID: ITEM:	M:			COMM 8109 TV CA				SWITC		NORM)				
LEAD ANA	LY:	ST	:	W.C.	LONG									
ASSESSME	NT	:												
	CR:		ICAL LIGH	ITY T	R	EDUND	ANCY	SCREI	ens			CIL		
]		W/FU		A		В		(С			••	
NASA IOA	[3	/ /3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	DA!	ric	ons:	(If	dif	feren	ıt fr	om NAS	SA)					
	(/]	[.]	[]	[]	(AE	[DD/D] ELF	ETE)
* CIL RE	TEI	NT:	ION	RATION	ALE:	(If	appl	icable	1	ADEQUA' ADEQUA'		[]	
REMARKS:	ידם	RTI	r na	ፍል 	לאויהו לא	Ėλ	мот	<i>ሮ</i> ₽ፐሞፐ <i>(</i>	זגי			ŕ	-	

ASSESSME ASSESSME NASA FME	NT ID:	3/05/ COMTI				N	IASA DATA BASELINI NEV]	
SUBSYSTE MDAC ID:		COMM 8110 TV C				SWIT	'CH (N	IORM)		
LEAD ANA	LYST:	W.C.	LONG							
ASSESSME	NT:									
	CRITICAL FLIGH		R	EDUN	DANCY	SCR	EENS		CII	_
	HDW/F		A		В	;	C	2		
NASA IOA	[/ / 3	1	_ [_ []	[]	[[]	[] *
COMPARE	[N /N]	[]	[]	[]	Γ]
RECOMMEN	DATIONS	: (I:	f dif	fere	nt fr	om N	ASA)			
	[/]	[]	[]	[] (2	[ADD/I] DELETE
* CIL RE				·			INA	DEQUATE DEQUATE]
NO COMPA	RIBLE N	ASA CC	rv fm	EA.	TOM	CRIT	'ICAL.			

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	: 3/05/88 COMTRK-81			ľ	NASA I BASEI		[]	
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8111 TV CAMERA			SWIT	CH (1	AVG)			
LEAD ANALYST:	W.C. LONG	;					:		
ASSESSMENT:									
CRITICA FLIG		REDUN	DANCY	scr	EENS			CĪL	М
	UNC A	Y	F	3	C	3			
NASA [/ IOA [3 /3] [] []	[[]	[]		[] *]
COMPARE [N /N] []	[]	[]		[]
RECOMMENDATIONS	: (If dif	fere	nt fr	om N	ASA)				
[/] []	(]	[]	(AI	[DD/D1] ELETE)
* CIL RETENTION	RATIONALE:	(If	_ <u>a</u> pp]	licab	7	ADEQUA ADEQUA	ATE ATE	[]
REMARKS: NO COMPARIBLE N	ASA CCTV FM	ſΕΑ.	NOT	CRIT	ICAL.				

ASSESSME ASSESSME NASA FME	NT ID:		3/05/8 COMTRK		.2				ASA I BASE		[]	
SUBSYSTE MDAC ID:	M:	8	COMM A 3112 FV CAM				SWITCH	(A)	VG)				
LEAD ANA	LYST:	V	N.C. L	ONG									
ASSESSME	NT:										-		
	CRITIC FL	CALIT	ry	RE	DUND	ANCY	SCREE	ens			CIL	4	
•	HDW/	/FUNC	2	A		В		С					
NASA IOA	[3 /	/ :]]	[[]] []	[]		[]	*
COMPARE	[N]	/N]]	[]	[]	•]		[]	
RECOMMEN	DATIO	NS:	(If	diff	eren	t fro	om NAS	SA)					
-	[/	/ :]	[]	[]	[]	(AD	[D/DI] ELE	TE
* CIL RE	TENTI	on R	ATIONA	LE:	(If	appl:	icable	A	DEQUI]]	
REMARKS:								T14V	25201		L	J	

NO COMPARIBLE NASA CCTV FMEA. NOT CRITICAL.

ASSESSME ASSESSME NASA FME	NT	I		•	5/88 TRK-81:	13			<u> </u>	NASA DA BASELI N]	
SUBSYSTE MDAC ID: ITEM:				8113				ID SW	VITCH	(WHITE	STRO	CH)	
LEAD ANA	LY	ST	:	W.C.	LONG							•	
ASSESSME	NT	:											
	CR:		ICAL LIGH	ITY T	RI	EDUI	IDANCY	SCF	REENS		CI	L CEM	
	. 1		W/FU		A		E	3	•	C			
NASA IOA	[3	/3]	[]]]]	[]]]]	*
COMPARE	[N	/N]	[]	[]	[]	[]	
RECOMMEN	DA'	TI	ons:	(1	f dif	fere	ent fr	om N	IASA)				
	[/]	[]	[]	[]	[(ADD/	DELF	TE)
* CIL RE	TE:	NT:	ION	RATIO	NALE:	(11	appl	icab	1	ADEQUAT ADEQUAT	-]	
REMARKS:	DT.	RT.	г иа	SA CO	יוויים ליוויי	Fλ	мот	רדקי	ידראז.				

ASSESSME ASSESSME NASA FME	NT ID:			.14			N	IASA DAT BASELIN NE]
SUBSYSTE MDAC ID: ITEM:		8114				D SW	ITCH	(WHITE	STRCI	H)
LEAD ANA	LYST:	W.C.	LONG	;						
ASSESSME	NT:									
	CRITICAL FLIGH		R	EDUN	DANCY	SCR	EENS		CII	
	HDW/FU		A		В		C	2	111	21.1
NASA IOA	[/ [3 /3]	[]	[]	[[]]] *
COMPARE	[N /N]	[]	[]	[]	1]
RECOMMEN	DATIONS:	(If	dif	fere	nt fr	om N	ASA)			
	[/]	[]	נ]	. [] ([ADD/I] DELETE
* CIL RE	TENTION	RATION	ALE:	(If	appl	icab	P	ADEQUATE ADEQUATE]
NO COMPA		SA CCI	V FM	EA.	NOT	CRIT	ICAL.			

ASSESSME ASSESSME NASA FME	ENT	I		-)5/88 TRK-8]	115					DATA: LINE NEW	[]
SUBSYSTE MDAC ID:				811	IM AND L5 CAMERA			1D SW	ITCH	(NOI	RM)		
LEAD ANA	LY	ST	•	w.c	. LONG	}							
ASSESSME	ENT	:											
		F.	r.TCH	ITY T NC	- P	-	DANCY 1					CII	
NASA												[] *
IOA	Ì	3	/3	j	[Ţ	Ĭ	j	Ĩ	j		Ĭ	j ·
COMPARE	[N	/N]	[]	[]	[.]		[]
RECOMMEN	IDA!	ri	ONS:	(If dif	fere	nt fr	om N	ASA)	v			
	[/]	Ţ]	[]	[]	(AI	[D/D/] DELETE)
* CIL RE		NT:	ION	RATI	ONALE:	(If	appl	icab		ADEQU ADEQU	JATE JATE	[]
REMARKS:		BL	E NA	SA C	CTV FM	IEA.	NOT	CRIT	TCAL	•			

ASSESSME ASSESSME NASA FME	NT ID:	3/05/ COMTR		16				NASA DAT BASELIN NE]
SUBSYSTE MDAC ID:		COMM 8116 TV CA				D SWI	тсн	(NORM)		
LEAD ANA	LYST:	W.C.	LONG							
ASSESSME	NT:									
	CRITICAL FLIGH		R	EDUNI	DANCY	SCRE	ENS		CII	
	HDW/FU		A		В		•	C		
NASA IOA	[3 /3]	[]]]	[[]	[] *]
COMPARE	[N /N	1	[]	. []	[]	[]
RECOMMEN	DATIONS:	(If	dif	fere	nt fr	om NA	SA)			
	[/]	[1	[]	[]	[ADD/I] DELETE
	TENTION	RATION	ALE:	(If	appl	icabl		ADEQUATE ADEQUATE	-]
REMARKS:	RIBLE NA	SA CCT	V FM	EA.	пот	CRITI	CAL	• .		

ASSESS ASSESS NASA F	MEN	ΙŢ	I		COMTR		17	•		,	BASELI N	NE	[]	
SUBSYS MDAC I ITEM:		[:			COMM . 8117 TV CA				D SWI	гсн	(BLACK	ST	'RCH))	
LEAD A	NAI	ΥS	T	:	W.C.	Long									
ASSESS	MEN	T:	:												
	C	RI		ICAL LIGH	ITY T	R	EDUNI	DANCY	SCRE	ENS		_	CIL ITEN	1	
		F	IDI	/FU	NC	A		В	-	(С				
NAS IO	A]	3	/ /3]	[]]]	[[]		[]	*
COMPAR	E	[N	/N]	[]	[]	[1		[]	
RECOMM	END	ľA	CIO	ons:	(If	dif	fere	nt fr	om NA	SA)					
		[/]	[]	[]	[]	(AD	[D/DI] ELE	TE)
		Έì	1 T :	ION :	RATION	ALE:	(If	appl	icabl	2	ADEQUAT ADEQUAT		[]	
REMARK NO COM		RIE	3L]	E NA	SA CCT	V FM	EA.	NOT	CRITI	CAL	•				

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	: 3/05/88 COMTRK-81	118			ASA DATA BASELINE NEW	E []
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8118 TV CAMERA		CMD SWI	тсн	(BLACK S	TRCH	I)
LEAD ANALYST:	W.C. LONG	3					
ASSESSMENT:							
CRITICA FLIG	LITY F	REDUNDAN	ICY SCRE	ENS		CII	
HDW/F		\	В	С			
NASA [/ IOA [3 /3] [] []	[]	[] *]
COMPARE [N /N] [] []	[]	ľ]
RECOMMENDATIONS	: (If dif	ferent	from NA	SA)			
[/] [] [. 1	[] (2] ELETE)
* CIL RETENTION REMARKS:	RATIONALE:	(If ar	plicabl	A	DEQUATE DEQUATE]
NO COMPARIBLE N.	ASA CCTV FM	MEA. NO	T CRITI	CAL.			

ASSESSME ASSESSME NASA FME	NT	II		3/05/8		L9				NASA DA BASELI N	NE	[]
SUBSYSTEMDAC ID:	M:			COMM 2 8119 TV VI				[FLT	DE	CK TVC	SEI	ECT] SW
LEAD ANA	LYS	T:	:	W.C. 3	Long								
ASSESSME	NT:										÷	~	
,	CR1		CAL LIGH		RI	EDUND	ANCY	SCRE	ENS			CIL	4
	H		/FU		A		В			C			
NASA IOA	[3	/ /3]	[]	[]]]		[[] *]
COMPARE	[N	/N]	[]	[]	[]		[]
RECOMMEN	DAT	'IC	ons:	(If	diff	feren	t fr	om NAS	SA)				
• •	[/]	[]	[]	[1	(AD	[D/DI] ELETE)
* CIL RE	TEN	T	ON :	RATION	ALE:	(If	appl	icable	· .	ADEQUAT		<u>[</u>	ļ
REMARKS:	DTE	RT.E	ר אז א	ፍል ሮሮ ሞነ	IMI T	7 2	NOT (CRTTT		ADEQUAT	E	[J

ASSESSME ASSESSME NASA FME	NT ID:	3/05/ COMTE		20			ľ	ASA DA BASELI N]
SUBSYSTE MDAC ID:	M:	COMM 8120 TV VI				[FL	r DEC	K TVC	SELECT	rj sw
LEAD ANA	LYST:	W.C.	LONG							
ASSESSME	NT:									
	CRITICAL FLIG		R	EDUN	DANCY	SCR	EENS		CII	
	HDW/F		A		В		C	:		
NASA IOA]	[[]	[[]	[]	[] *]
COMPARE	[и/и]	[]	[]	(3	[]
RECOMMEN	DATIONS	: (If	dif	fere	nt fr	om N	ASA)			
	[/]	[]	[]	[]	[(ADD/I] DELETE
* CIL RE	TENTION	RATION	VALE:	(If	app1:	icab	7	DEQUAT	-]
REMARKS: NO COMPA	RIBLE N	ASA CCI	rv FM	EA.	NOT	CRIT	ICAL.	i		

ASSESSME ASSESSME NASA FME	ΝT	II		3/05/8 COMTRI		21	NASA DATA: BASELINE [] NEW []					_
SUBSYSTE MDAC ID: ITEM:				COMM 2 8121 TV VII			PBI	[MID	DEC	K TVC	SELE	CT] SW
LEAD ANA	LYS	ST	:	W.C. 1	LONG							
ASSESSME	NT:	:										
CRITICALITY REDUNDANCY FLIGHT				ANCY	Y SCREENS			_	CIL ITEM			
	I		N/FU		A		В		C	!	1	T-E-M
NASA IOA]	3	/ /3]	[]	[]	[]	[] *]
COMPARE	[N	/N]	[]	[]	[]	[]
RECOMMEN	DA:	ric	ons:	(If	dif	ferent	t fro	om NAS	SA)			
	(/]	[]	[]	(]] (ADD)] /DELETE)
* CIL RE	TEI	T	ION	RATION	ALE:	(If a	appli	icable	A	DEQUAT DEQUAT]
NO COMPA	RII	BLI	E NA	SA CCT	/ FMI	EA. 1	OT C	RITIC	CAL.			

	ASSESSM ASSESSM NASA FM	ENT	I		•	5/88 TRK-81	22				ASA DAT BASELIN NE]	
	SUBSYST MDAC ID ITEM:				812				[M]	ID DEC	K TVC S	ELECT	r] sw	7
	LEAD AN	ALY	ST	:	W.C	. LONG								
	ASSESSM	ENT	:											
		CR		ICAI LIGH	LITY	R	EDUN	IDANCY	SCI	REENS		CII		
]			JNC	A		В		C	:			
	NASA IOA	[[3	/ /3]]]	[]]]	[] *	r
	COMPARE	ľ	N	/N]	Ţ	1	[]	[]	[]	
	RECOMME	NDA'	ΤI	ons:	; (If dif	fere	ent fro	om 1	NASA)				
		[/]	[]	[]	[1 ([ADD/I] DELET	'E)
RETENTIO	N CIL	•			RATI	ONALE:	(11	f appl:	ical	A	DEQUATE]	
	NO COMP	•	вL	E NA	ASA C	CTV FM	EA.	NOT (CRI'	rical.				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA: BASELINE [] NEW []	
MDAC ID:	COMM AND TRACK 8123 TV VIDEO INPUT PBI [T	VC A FWD BAY SELECT] SW	I
LEAD ANALYST:	W.C. LONG	. <u></u>	
ASSESSMENT:			
CRITICAL: FLIGHT	TY REDUNDANCY SC	REENS CIL ITEM	
	IC A B	C	
NASA [/ IOA [2 /1R] [] [] []]	[] [] * [P] [X]	
COMPARE [N /N] [N] [N]	[N] [N]	
RECOMMENDATIONS:	(If different from)	NASA)	
[2 /1R] [P] [P]	[P] [A] (ADD/DELETE	:)
* CIL RETENTION I	RATIONALE: (If applica)	ble) ADEQUATE [] INADEQUATE []	
WOULD RESULT IN	LOSS OF TVC. UP CMD PROBLEM OF THE CONTROL OF THE C	TO PROVIDE THIS FUNCTI ROVIDES UNLIKE REDUNDAN CCTV FUNCTION AND LOSS	CY.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8124	NASA DATA: BASELINE [NEW [
	COMM AND TRACK 8124 TV VIDEO INPUT PB	I [TVC A SELECT] SV	v			
LEAD ANALYST:	NALYST: W.C. LONG					
ASSESSMENT:						
CRITICAL FLIGH HDW/FU	T	y screens B C	CIL			
·		1 []	r 1 *			
NASA [/ IOA [2 /1R] [P] [1	Pj [Pj	[] * [X]			
COMPARE [N /N] [и] [и	и) [и]	[N]			
RECOMMENDATIONS:	(If different fi	rom NASA)				
[2 /1R] [P] [I	P] [P] (AI	[A] DD/DELETE)			
	RATIONALE: (If app)	licable) ADEQUATE INADEQUATE	[]			
REMARKS: NO COMPARABLE NA WOULD RESULT IN	SA CCTV FMEA. FAII	LURE TO PROVIDE THE MD PROVIDES UNLIKE				

SECOND FAILURE COULD RESULT IN LOSS OF CCTV FUNCTION AND LOSS OF

VEHICLE AND CREW.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA: BASELINE [] NEW []
SUBSYSTEM: MDAC ID: ITEM:	COMM AND TRACK 8125 TV VIDEO INPUT PBI [TVC B	KEEL/EVA SELECT] SW
LEAD ANALYST:	W.C. LONG	
ASSESSMENT:		
CRITICAL: FLIGHT	TTY REDUNDANCY SCREENS	CIL ITEM
HDW/FU		C
NASA [/ IOA [2 /1R] [P] [P] [P] [X]
COMPARE [N /N) [N] [N] [и] [и]
RECOMMENDATIONS:	(If different from NASA)	
[2 /1R] [P] [P] [P] [A] (ADD/DELETE)
* CIL RETENTION I		ADEQUATE [] ADEQUATE []
WOULD RESULT IN 1	SA CCTV FMEA. FAILURE TO P LOSS OF TVC. UP CMD PROVID DULD RESULT IN LOSS OF CCTV	ROVIDE THIS FUNCTION ES UNLIKE REDUNDANCY.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 NASA DATA: COMTRK-8126 BASELINE NEW					[]	
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8126 TV VIDEO		PBI ['	TVC B SE	LECT] SW	1	
LEAD ANALYST: W.C. LONG							
ASSESSMENT:							
CRITICAL: FLIGHT	NCY S	CREENS		CIL ITEM			
HDW/FUI		A	В	С			
NASA [/ IOA [2 /1R] [p]	[p]	[[P]	[X] *	
COMPARE [N /N] [N]	[N]	[N]	[и]	
RECOMMENDATIONS:	(If d	ifferent	from	NASA)			
[2 /1R] [P]	[P]	[P		[A -] DD/DELETE)	
* CIL RETENTION 1	RATIONAL	E: (If a	pplic	AD	EQUATE EQUATE	[]	
REMARKS: NO COMPARABLE NAME OF THE PROPERTY OF	LOSS OF '	rvc. UF	CMD	E TO PRO PROVIDES	VIDE THI UNLIKE	S FUNCTION REDUNDANCY	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8	3127		NASA DATA: BASELINE NEW	[]
	COMM AND 8127 TV VIDEO		PBI [TVC C	AFT BAY SI	ELECT] SW
LEAD ANALYST:	W.C. LOI	1G			
ASSESSMENT:					
CRITICAL: FLIGH		REDUNDAN	CY SCREEN	S	CIL ITEM
HDW/FU	_	A	В	c	TIEM
NASA [/ IOA [2 /1R] [P] [] [P] [p]	[X] *
COMPARE [N /N] [и] [и ј [N]	[N]
RECOMMENDATIONS:	(If d:	ifferent	from NASA)	
[2 /1R] [P] [P] (P] .	[A] DD/DELETE)
* CIL RETENTION 1	RATIONALI	E: (If ap	-	ADEQUATE NADEQUATE	[]
REMARKS: NO COMPARABLE NA: WOULD RESULT IN SECOND FAILURE COVEHICLE AND CREW	LOSS OF TOULD RESU	IVC. UP	ILURE TO :	PROVIDE THI	REDUNDANCY.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-81	128		BASELINE NEW	[]
	COMM AND 8128 TV VIDEO		I [TVC C	SELECT] SW	
LEAD ANALYST:	W.C. LONG	G			***
ASSESSMENT:					
CRITICALI FLIGHT		REDUNDANC	Y SCREENS	S	CIL ITEM
HDW/FUN		A	В	С	
NASA [/ IOA [2 /1R] [1	P] [P] [P]	[x] *
COMPARE [N /N] [1	и] [1	и][и	N]	[N]
RECOMMENDATIONS:	(If di	fferent f	rom NASA))	
[2 /1R] [[1]	P] [P] [P] (AI	[A] DD/DELETE)
* CIL RETENTION F	RATIONALE	: (If app	·	ADEQUATE	[]
REMARKS:			11	NADEQUATE	[]
NO COMPARABLE NAS WOULD RESULT IN I SECOND FAILURE CO	LOSS OF T	VC. UP C	MD PROVII	DES UNLIKE	REDUNDANCY.

VEHICLE AND CREW.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-8	129			BASELINE NEW	
	COMM AND	TRACK				··
		INPUT	PBI	[TVC D	RMS STBD	SELECT] SW
LEAD ANALYST:	W.C. LON	r G				
ASSESSMENT:						,
CRITICAL FLIGH	ITY	REDUNDA	NCY S	SCREENS	5	CIL ITEM
	NC	A	В		C	IIEM
NASA [/ IOA [2 /1R] [P]	[[P] [P]	[
COMPARE [N /N] [n j	[N]) [N]	[N]
RECOMMENDATIONS:	(If di	.fferent	fron	m NASA))	
[2 /1R] [P]	[P]] [P] (A	[A] DD/DELETE)
* CIL RETENTION 1	RATIONALE	: (If a	ppli	•	ADEQUATE VADEQUATE	[]
REMARKS:						
NO COMPARABLE NA: WOULD RESULT IN	Loss of T	VC. UF	CMD	PROVII	DES UNLIKE	REDUNDANCY.
SECOND FAILURE COVEHICLE AND CREW	OULD RESU	LT IN I	oss (OF CCTV	FUNCTION	AND LOSS OF

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8130	o	NASA DATA: BASELINE [] NEW []			
	COMM AND TE 8130 TV VIDEO IN		[TVC D S	SELECT] SW	7	
LEAD ANALYST:	W.C. LONG					
ASSESSMENT:						
CRITICALI FLIGHT		DUNDANCY	SCREENS		CIL ITEM	
HDW/FU		В	C	3	11154	
NASA [/ IOA [2 /1R] [p] [] [P] [[·]	[
COMPARE [N /N] [N]] [N] []	1]	[N]	
RECOMMENDATIONS:	(If diffe	erent fro	om NASA)			
[2 /1R] -[P]] [P] []		[A] DD/DELETE)	
* CIL RETENTION I	RATIONALE:	(If appli		DECIME.	r 1	
			INA	ADEQUATE ADEQUATE		
REMARKS: NO COMPARABLE NAS WOULD RESULT IN I SECOND FAILURE CO	LOSS OF TVC.	. UP CMD	RE TO PE	ROVIDE THI	S FUNCTION REDUNDANCY	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:						ASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8131 TV VIDEO			[RMS	TVC	SELECT]	sw	
LEAD ANALYST:	W.C. LON	IG				20.0		<u>.</u> .
ASSESSMENT:								
CRITICAL: FLIGHT		REDUNDA	NCY	SCREE	ens		CIL ITEM	
HDW/FU		A	В		С		110	
NASA [/ IOA [3 /2R] [P]	[[P]	[[P]	[]	*
COMPARE [N /N] [иј	[и]	[]]	[]	
RECOMMENDATIONS:	(If di	fferent	fro	m NAS	SA)			
]	P]	[P]	[P] (AI	[]	ETE)
* CIL RETENTION I	RATIONALE	E: (If a	ppli	cable	AD	EQUATE EQUATE		
REMARKS: NO COMPARABLE NAS IN LOSS OF MISSIO		PMEA. I	oss	OF TH	IIS F	UNCTION	COULD	RESULT

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		• •							
	8132	COMM AND TRACK 8132 TV VIDEO INPUT PBI [RMS TVC SELECT]							
LEAD ANALYST:	W.C. LONG								
ASSESSMENT:									
CRITICAL	CIL ITEM								
FLIGH HDW/FU		В	С	IIEM					
NASA [/ IOA [3 /2R] [] [P]	[] [P]	[] [P]	[]	*				
COMPARE [N /N] [и]	[11]	[и]	[]					
RECOMMENDATIONS:	•	nt from NASA	A)						
[3 /2R	[P]	[P]	[P] (A)	[] DD/DEL	ETE)				
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []									
REMARKS: NO COMPARABLE NASA CCTV FMEA. LOSS OF THIS FUNCTION COULD RESULT IN LOSS OF MISSION.									

ASSESSME	SSESSMENT DATE: 3/05/88 SSESSMENT ID: COMTRK-8133 ASA FMEA #:								NASA DATA: BASELINE [] NEW []					
SUBSYSTE MDAC ID: ITEM:			8133					L 1,:	2,0R 3	B TVC	c si	ELECT	sw	
LEAD ANALYST: W.C. LONG														
ASSESSME	:TM													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM														
			NC	, A		E	3	(
NASA IOA	[[3	/3]	[]]]	[]		[] *		
COMPARE	[N	/N]	Ĩ.]	[]	[]		[]		
RECOMMEN	DATI	ons:	(3	f dif	fere	nt fr	om N	ASA)						
	ι	/]	[]	Ţ.]]	(AI] ELETE)	l	
* CIL RE		NOI	RATIO	ONALE:	(If	appl	icab	7	ADEQUA ADEQUA	TE]		
NO COMPA		E NA	SA C	CTV FM	EA.	NOT	CRIT	ICAL.						

ASSESSMENT WORKSHEET

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-81	.34	NASA DATA: BASELINE [] NEW []							
	COMM AND 8134 TV VIDEO		[P/L	1,2,OR	3 TVC SE	ELECT] SW				
LEAD ANALYST:	W.C. LONG	;								
ASSESSMENT:	ASSESSMENT:									
CRITICALITY REDUNDANCY SCREENS CIL ITEM										
HDW/FU		. 1	3	C	· 					
NASA [/ IOA [3 /3] [] []	[]	[[] *]				
COMPARE [N /N] [] [] .	[]	[]				
RECOMMENDATIONS:	(If dif	ferent f	com NAS	SA)						
[/] [] []	[]	[(ADD/I] DELETE)				
* CIL RETENTION REMARKS:	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []									
	NO COMPARABLE NASA CCTV FMEA. NOT CRITICAL.									

ASSESSME	SSESSMENT DATE: 3/05/88 SSESSMENT ID: COMTRK-8135 ASA FMEA #:								NASA DATA: BASELINE [] NEW []					
SUBSYSTE MDAC ID: ITEM:	M:			COMM 8135 TV VI			PBI	[MUX	1 8	. MUX	2 SI	ELEC	rj s	sw
LEAD ANA	LYS	T:		W.C.	LONG					. *				
ASSESSME	NT:													
CRITICALITY REDUNDANCY SCREENS FLIGHT										CIL	v r			
	H			ИС	A		В		C	3			va.	
NASA IOA	֝֟֝֟֝֟֝֟֝֟֝֟֝	3	/ /3]	[]]]	[]		[] ;	k
COMPARE	[N	/N]	[]	[] .	[]		[]	
RECOMMEN	DAI	'IC	NS:	(If	dif	ferent	t fro	om NAS	SA)					
	Į.		/]	[]	ι.	3	[]	(AI	[DD/DI] ELET	ΓE)
* CIL RE	TEN	ΤI	ON I	RATION.	ALE:	(If a	appli	icable	≥) A INA	ADEQUA	TE TE	[]	
REMARKS:	D X E	TE	• ATA	ሮአ ሶሶጥ	to Endi	מ אים	tom (ים דיים דמי	אר.	\$ 21				

ASSESSME ASSESSME NASA FME	TN	ID		-	05/88 MTRK-8	136			;	NASA 1 BASE1		Ε []	
SUBSYSTE MDAC ID:	M:			813	MM AND 86 VIDEO			(MU)	X 1	& MUX	2	SELE	CT]	sw
LEAD ANA	LYS	T:		W.C	c. LON	G								
ASSESSME	NT:													
		FL	IGH'		1	REDUN	DANCY	SCRI				CII		
	H	IDW,	/FU	NC	7	A	. В		1	С				
NASA IOA	[3 ,	/ /3]	[]	[]	[[]		[]	*
COMPARE	[N,	/N]	[]	[]	[]		Ţ]	
RECOMMEN	'DA'I	'IO	NS:	((If di	ffere	nt fr	om NA	SA)					
	[•	/]	[]	[]	[]	([ADD/I] DELI	ETE
* CIL RE	TEN	TI(ON :	RAT]	CONALE	: (If	appl	icab]		ADEQUA ADEQUA		_]	
REMARKS:														

NO COMPARABLE NASA CCTV FMEA. NOT CRITICAL.

ASSESSMENT DATE: 3/05/88 ASSESSMENT ID: COMTRK-8137 NASA FMEA #:]	NASA I BASE]		[]	
SUBSYSTE MDAC ID: ITEM:	M:			813	M AND 7 VIDEO			r [TE	est si	ELECT] SW	ITCI	ł	
LEAD ANALYST: W.C. LONG														
ASSESSME	NT	:												
CRITICALITY REDUNDA FLIGHT							DANCY	SCF	REENS			CIL ITEM		
	1		W/FC		. 2	.	E	3	(2				
NASA IOA	[[3	/ /3]]	[]	[[]	[]		[[] *	
COMPARE	[N	/N]	[3	[]	[]		[]	
RECOMMEN	DA'	ri(ONS:	; (If dif	fere	nt fr	om N	IASA)					
	ľ		/]	ľ]	[]		1	(A	[DD/I] DELET:	E)
* CIL RE	TEI	NT:	ION	RATI	ONALE:	(If	appl	licab	7	ADEQU <i>I</i> ADEQU <i>I</i>		[]	
REMARKS:														

NO COMPARABLE NASA CCTV FMEA. NOT CRITICAL.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-81		NASA DAT BASELII NI]			
	ID: 8138							
LEAD ANALYST:								
ASSESSMENT:								
CRITICAL FLIGH	-	SCREEN	S	CIL				
HDW/FU		В		С				
NASA [/ IOA [3 /3] [] [] []] [] *		
COMPARE [N /N] [] [] []	[]		
RECOMMENDATIONS:	(If dif	ferent fr	om NASA	.)				
. [/] [] [] [1	[(ADD/D] ELETE		
* CIL RETENTION	RATIONALE:	(If appl	·	ADEQUATI NADEQUATI]		
REMARKS:	REMARKS: NO COMPARABLE NASA CCTV FMFA NOT CRITICAL.							

ASSESSME ASSESSME NASA FME	NT	I					139		NASA <u>DATA:</u> BASELINE [] NEW []]
SUBSYSTE MDAC ID: ITEM:	M:			81	39			K UT PE				'] SW	ITCH	
LEAD ANA	LYS	ST	:	W.	c.	LONG	3			÷				
ASSESSME	NT:	:												
	CR:		ICAL LIGH				REDUN	DANCY	SCR				CII	_
	1	HDI	W/FU	NC		2	A	F	3	(3			
NASA IOA	[3	/3]]		[]	[]	[]		[[] *
COMPARE	[N	/N]		[]	[]	[]		[]
RECOMMEN	DA'	rī¢	ons:		(If	di	ffere	nt fi	om N	ASA)				
	[/]		[)	[]	[]	(A] DELETE)
* CIL RE	TEI	NT:	ION	RAT	ION.	ALE:	: (If	app]	licab	1	ADEQU ADEQU	ATE	[]
REMARKS: NO COMPA	RAI	BL	E NA	SA	CCT	V FI	MEA.	NOT	CRIT	ICAL			mi (1.66).	: - 1. · · ·

ASSESSMENT DA ASSESSMENT II NASA FMEA #:		88 K-8140		NASA D BASEL]
SUBSYSTEM: MDAC ID: ITEM:	8140	AND TRAC		UX SELECT]	SWITCH	I
LEAD ANALYST: W.C. LONG						
ASSESSMENT:						
FI	CALITY IGHT		DANCY SCR		CII	
HDW	/FUNC	A	В	С		
NASA [IOA [3	/] /3]	[]	[]	[]	[[] *]
COMPARE [N	/N]	[]	[]	[]	[]
RECOMMENDATIO	NS: (If	differe	nt from N	ASA)		
ĵ.	/ 1	[]	[]	[]	[(ADD/I] DELETE
* CIL RETENTI	ON RATION	ALE: (If	applicab	ole) ADEQUA INADEQUA	-]

NO COMPARABLE NASA CCTV FMEA. NOT CRITICAL.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		141	NASA DATA BASELINE NEW	[]					
SUBSYSTEM: MDAC ID: ITEM:	8141	OMM AND TRACK 141 V VIDEO OUTPUT PBI [MON SELECT] SWI							
LEAD ANALYST:	W.C. LON	G							
ASSESSMENT:									
CRITICAL FLIGH	CIL ITEM								
HDW/FU		A B	С						
NASA [/ IOA [3 /1R] [:] [P] [P] []] [P]	[] *					
COMPARE [N /N] []	и] [и		[]					
RECOMMENDATIONS:	(If di	fferent fro	om NASA)						
[3 /1R) [P] [P] [P] (A	[] DD/DELETE)					
* CIL RETENTION	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE []								
INADEQUATE [] REMARKS: LOSS OF ALL CAPABILITY TO PROVIDE MONITOR CAPABILITY COULD RESULT IN LOSS OF CCTV FUNCTION RESULTING IN POSSIBLE LOSS OF VEHICLE AND CREW.									

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	COMM AND TRACK 8142 TV VIDEO OUTPUT PBI [MON	SELECT] SWI	ІТСН
LEAD ANALYST:	W.C. LONG	· · · · · · · · · · · · · · · · · ·	in the second of the hold
ASSESSMENT:			
CRITICAL FLIGH HDW/FU	T	rs	CIL ITEM
NASA [/ IOA [3 /1R] [] [] [] [] []	P]	[] *
COMPARE [N /N] [и] [и] [N]	[]
RECOMMENDATIONS:	(If different from NASA	۷)	
[3 /1R] [P] [P] [[] DD/DELETE)
	RATIONALE: (If applicable)	ADEQUATE NADEQUATE	[]
	BILITY TO PROVIDE MONITOR FUNCTION RESULTING IN POSS		

ASSESSME	ASSESSMENT DATE: 3/05/88 ASSESSMENT ID: COMTRK-8143 NASA FMEA #:								N	ASA D BASEL		: [[]	
SUBSYSTE MDAC ID: ITEM:	M:			8143	MAND T B VIDEO (I [F	P/L SE	LECT]	SW:	ITCH	I	
LEAD ANA	LY	ST	:	W.C.	LONG									
ASSESSME	NT	:												
	CRITICALITY REDU FLIGHT							SCR	EENS			CII		
	1			nc nc	A		В		c	:		TTT	7M	
NASA IOA	[3	/ /3]	[]	[]	[[]		[]	*
COMPARE	[N	/N]	ι]	[1	[]		[]	
RECOMMEN	DA'	ri(ONS:	(1	f dif	fere	ent fr	om N	(ASA)					
[/] []]	[]	[]	(Al	[DD/I] ELF	EŤE)
* CIL RE	TEI	NT:	ION	RATIO	NALE:	(If	appl	icab	A	DEQUA		[]	
REMARKS:	יסים	D 3.1	ייים ארייים	ĀGA (र्गार स्क	σέιδ	אַסיי	ČRT	ΤΔΌΤΦ			<u>-</u>	•	

ASSESSME ASSESSME NASA FME			/88 RK-81			ì	NASA DATA BASELIN NE]		
SUBSYSTE MDAC ID:	M:		COMM 8144 TV V				3I [P	/L SI	ELECT] S	WITCI	н
LEAD ANA	LYST	:	W.C.	LONG	3						
ASSESSME	NT:										
		ICAL LIGH	ITY T	F	REDUN	IDANCY	SCR	EENS		CII	
	HD	w/FU	NC	P	A	E	3	(2		
NASA IOA	[3	/ /3]	ן נ]	[]	[]] [] *
COMPARE	[N	/N]	[]	[]	[]	[J
RECOMMEN	DATI	ons:	(I	f dif	ffere	ent fr	om N	ASA)			
	[/]	[]	[]	[] ([ADD/1] DELETE
* CIL RE	TENT	ION	RATIO	NALE:	: (If	appl	licab	1	ADEQUATE ADEQUATE]
NO COUNT	ERPA	RT N	ASA C	CTV I	MEA.	ron.	CRI	TIÇA	5.		

ASSES ASSES NASA	SMEN	T	II		3/05/8 COMTRE		5			N	IASA DAT BASELIN NI	NE	[]
SUBSY: MDAC ITEM:		:			COMM A 8145 TV VII			PB1	[DOW	NLI	NK SELE	ECT] SW	VITCH
LEAD .	ANAI	YS	T	:	W.C. I	ONG								
ASSES	SSESSMENT:													
	CRITICALITY REDUNI								SCREE	ens			CIL ITEM	ſ
		F	IDV	/FUI	iC	A		В		C	:			
NA I	SA OA	[3	/ /3]	[]	[]	[]		[] *
COMPA	RE	[N	/N]	[]	[]	[]		[]
RECOM	MENE	ΓA	'IC	ons:	(If	diff	erent	fro	om NAS	A)				•
		[/	1	[]	[]	[]	(AD	[D/DE] ELETE
		EN	T	ON I	RATIONA	LE:	(If a	ıppli	cable	A	DEQUATE	Ξ	[]
REMAR NO CO		RE	PAI	RT NA	ASA CCI	V FM	EA.	NOT	CRITI	CAI	٠.			

ASSESSME ASSESSME NASA FME		3/05/8 COMTRK		6				ASA DATA BASELIN NE	E []			
SUBSYSTE MDAC ID:		COMM A 8146 TV VID			r PBI	(DO	WNLI	NK SELE	ct] s	w			
LEAD ANA	LYST:	W.C. I	ONG										
ASSESSME	ASSESSMENT:												
	CRITICAL		RE	DUNDA	ANCY	SCRE	ENS		CII				
	FLIGH HDW/FU		A		В		С		ITE	M			
NASA IOA	[/ [3 /3]	[]	[]	[]	[] *			
COMPARE	[N /N]	[]	C	1	[]	[]			
RECOMMEN	DATIONS:	(If	diff	erent	t fro	om NA	SA)						
]	[.	1.	[1 -(2	[ADD/E] ELETE)						
REMARKS:	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE [] REMARKS:												
NO COUNT	ERPART N	IASA CCI	'V FM	EA.	\mathbf{NOT}	CRIT	ICAL	•					

ASSESSM ASSESSM NASA FM	ENT	I		•	/88 RK-814	17			1	NASA DA BASELI 1		[]	
SUBSYST:				8147	AND T			TROL	SW					
LEAD AN	ALY	ST	:	W.C.	LONG									
ASSESSM	ENT	:												
	CR		ICAL LIGH		RI	EDUNI	DANCY	SCR	EENS			CIL		
				NC	A		F	3	(C		1111		
NASA IOA	[3	/ /3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	ſ]	[]	[]		[]	
RECOMME	NDA	TI	SNC:	(I	f diff	ere	nt fr	om N	ASA)					
	• [/]	ι.]	[]	Ċ	.1	(AD	[D/D]	ELE'	TE)
* CIL R		NT:	ION :	RATIO	NALE:	(If	app]	licab	1	ADEQUAT ADEQUAT		[]	
REMARKS	:													

NO COUNTERPART NASA CCTV FMEA. NOT CRITICAL.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-81	48			NASA DATA BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	COMM AND T 8148 TVC A PEAN		CONTI	ROL SW			
LEAD ANALYST:	W.C. LONG						
ASSESSMENT:							
CRITICAL FLIGH		EDUNDA	NCY S	SCREENS		CIL	ч
HDW/FU			В		С		_
NASA [/ IOA [3 /3] []	ָ [] []	[[] *
COMPARE [N /N] []	[]] []	[]
RECOMMENDATIONS:	(If dif:	ferent	from	n NASA)			
[/] []	[]] [[DD/D1] ELETE)
* CIL RETENTION	RATIONALE:	(If a	pplid		ADEQUATE ADEQUATE	[]
REMARKS: NO COUNTERPART N	ASA CCTV FI	MEA.	TON		_	•	-

ASSESSME ASSESSME NASA FME	I		•	5/88 RK-814]	NASA I BASEI		[]			
SUBSYSTE MDAC ID: ITEM:	M:			8149	I AND T A NORM			TROL	, SW					
LEAD ANA	LY:	ST	:	W.C.	LONG									
ASSESSME	NT	:										* * *		1
	CR:			ITY	RI	EDUN	DANCY	SCR	EENS			CIL		
	1		LIGH W/FU	NC	A		В	,	(g u kisate t	ā	IIE	М	
NASA IOA	[[3	/3]	[]	[]]]		[] *	t
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	DA!	ri	ons:	(I	f dif	fere	nt fr	om N	ASA)					
	[/	1	[]	Ţ]	(]	(AI	[D/D/] ELEI	ľE)
* CIL RE	TEI	ŊŢ.	ION	RATIC	NALE:	(If	appl	icab	1	ADEQUA ADEQUA		[]	
REMARKS:	יסים	וגם	מידים	202	איז גיייטי	ΛΈΣ	иот	CRI	ጥፐሮል፣	r				

ASSESSMEN ASSESSMEN NASA FME	NT ID:	3/05/8 COMTR		50			ì	NASA DA BASELI 1		[]
SUBSYSTEN MDAC ID:		COMM 2 8150 TVC A				rrol s	SW				
LEAD ANAI	LYST:	W.C.	LONG								
ASSESSMEN	NT:										
C	CRITICAL FLIGH		R	EDUND	ANCY	SCREE	ens			CIL	
	HDW/FU	NC	A		В		(. .			
NASA IOA	[/ / 3]								[] *]
COMPARE	[и/и	1	[]	[]	[]		[]
RECOMMENI	DATIONS:	(If	dif	feren	t fro	om NAS	SA)				
	[/ .].	[]	[]	[]	(AI	[D/D] ELETE
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE INADEQUATE REMARKS:]
NO COUNTI	ERPART N	ASA CC'	TV F	MEA.	\mathbf{NOT}	CRITI	[CA]	.			

ASSESSM ASSESSM NASA FM	ENI	I)5/88 ITRK-815	51			1	NASA D BASEI]]	
SUBSYST MDAC ID				815	M AND 1 51 C A AVG			ROL	SW					
LEAD AN	ALY	ST	:	W.C	. LONG									
ASSESSMENT:														
	CF		ICAL LIGH		R	EDUNI	DANÇY	SCR	EENS			CIL ITEN	<i>a</i>	
		_	W/FU	_	A		E	3	(2		# 1 191	4	
NASA AOI	. [3	/3]	[]	[]	[]		[] :	*
COMPARE	. [N	/N]	[]	[]	[]		[]	
RECOMME	NDA	TI	ons:	(If diff	ere	nt fr	om N	ASA)					
.er	. [·.	/]	[]	[]	[]	(AD	[D/DI] ELE:	ΓE)
* CIL R	ETF	ENT	ION	RATI	ONALE:	(If	appl	icab		ADEQUA ADEQUA		[]	
REMARKS	:											-	-	

NO COUNTERPART NASA CCTV FMEA. NOT CRITICAL.

ASSESSMENT DATE:	, ,				ASA DATA		_		
ASSESSMENT ID: NASA FMEA #:	COMTRK-81	152				BASELINE NEW]	
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8152 TVC A AVO			ROL S	SW				
LEAD ANALYST:	W.C. LONG	3							
ASSESSMENT:									
CRITICAI FLIGH		REDUN	DANCY	SCRI	EENS		CII		
HDW/F		A	В		C	!	***	111	
NASA [/ IOA [3 /3] [A [] []]]]	[]	*
COMPARE [N /N] []	[]	[1	[]	
RECOMMENDATIONS	(If di	ffere	nt fr	om NA	ASA)				
[/] []	[]] (2	[ZDD/I] DELE	TE
* CIL RETENTION REMARKS:	RATIONALE	: (If	appl	icab	À	DEQUATE]	
NO COUNTERPART I	NASA CCTV 1	FMEA.	TON	CRI	ricai	1•			

ASSESSME ASSESSME NASA FME	ΝT	I		•	5/88 TRK-815	3]	NASA DA BASELI N		[[]	
SUBSYSTE MDAC ID: ITEM:				8153	M AND T B B PEAK			TROL	SW					
LEAD ANA	LYS	ST	:	W.C.	LONG									
ASSESSME	NT	:												
			ITY	RE	DANCY	SCR	EENS			CIL				
	I	_	LIGH N/FU	NC	A		В		(С		111	r1	
NASA IOA	[3	/3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	DA:	ri(ons:	(3	f diff	ere	nt fr	om N	ASA)					
. [/] []]	[]	(AD	[D/D	} ELE	TE)
* CIL RE	TEI	T.	EON :	RATIO	ONALE:	(If	appl	icab	1	ADEQUAT ADEQUAT		[]	
NO COUNT	וסק	וגם	זא ידיכ	ACA (איז זיייטיי איז זיייטיי	FΔ	иот	רקד	тт СА	Τ				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-81	L54				A DATA SELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8154 TVC B PEA			rrol s	SW			
LEAD ANALYST:	W.C. LONG	3						
ASSESSMENT:								
CRITICAL FLIGH		REDUNI	DANCY	SCREE	ENS		CI	
HDW/FU		A	В		C	•		Lit
NASA [/ IOA [3 /3] []	[]	[]]] *]
COMPARE [N /N] []	[]	[]		[]
RECOMMENDATIONS:	(If di	ffere	nt fr	om NAS	SA)			
[/] []	[1 .	[]	. · (A	[DD/] DELETE
* CIL RETENTION REMARKS:	RATIONALE:	: (If	appl:	icable	ADE	QUATE QUATE	[]
NO COUNTERPART N	ASA CCTV I	FMEA.	NOT	CRITI	CAL.			

ASSESSME ASSESSME NASA FME	ENT	I)5/88 MTRK-815	55			1		DATA: LINE NEW]
SUBSYSTE MDAC ID:				815	IM AND I			TROI	. sw				
LEAD ANA	LY	ST	:	w.c	. LONG								
ASSESSME	ENT	:											
	CR		ICAL		RE	DUN	DANCY	SCF	REENS			CII	
	1		LIGH W/FU		A		В			3 4		111	7.T.1
NASA IOA	[3	/ /3]	[]	[]]]		[] *
COMPARE	[N	/N]	C]	[]	[]		[]
RECOMMEN	IDA'	ΓI	ONS:	(If diff	ere	nt fr	om N	IASA)				
· ·	. [/]	[]	[]	[]	(AD	[D/D] ELETE)
* CIL RE		NT:	ION :	RATI	ONALE:	(If	appl	icak	P	DEQU DEQU		[]
REMARKS:		PA	RT N	ASA	CCTV FM	ŒΑ.	пот	CRI	TICAL				

ASSESSME ASSESSME NASA FME	NT ID:	E: 3/05 COMT			N	IASA DA BASEL:		[]		
SUBSYSTE MDAC ID:	M:	COMM 8156 TVC			K C CON'	rol	SW				
LEAD ANA	LYST:	W.C.	LONG	}							
ASSESSME	NT:										
	CRITIC		R	EDUN	DANCY	SCR	EENS			CII	
	HDW/		A		В		C	2			
NASA IOA	[3 /:	3]	[[[]	[]		[[] *	
COMPARE	[N /	1]	[]	[]	C]		[]
RECOMMEN	DATION	5: (I	f dif	fere	nt fr	om N	ASA)				
	. [/	[]	[]	[].	(A	[DD/[] DELETE	
* CIL RE				·			INZ	ADEQUA' ADEQUA'		_]
NO COUNT	LKPAKT	NASA (CIV F	MLA.	NOT	CKT	TICAL	J •			

ASSESSMEN	1T	DATI	E: 3/	05/88					NASA DA'				
ASSESSMEN NASA FMEA			COI	MTRK-81	57				BASELII N	NE EW	[]	
SUBSYSTEM MDAC ID: ITEM:			81	MM AND 1 57 C B AVG				sw					
LEAD ANAI	LYS	T:	W.	c. Long									
ASSESSMEN	T:												
c			ALITY	RI	EDUN	DANCY	SCR	EENS			CIL		
		FLIC DW/I	FUNC	A		В	•	•	C		ITE	M	
NASA IOA	[/ 3 /3]	[]]]	[]		[]	*
COMPARE	[N /1	4]	[]	[]	[]		[]	
RECOMMEND	AT	IONS	5:	(If diff	fere	nt fr	om N	ASA)					
	[/]	[] ,	[].	[]	(AD	[D/D] ELE	TE)
* CIL RET	EN'	TION	N RAT	IONALE:	(If	appl	icab:	, i	ADEQUATI ADEQUATI		[]	
REMARKS:	RP.	ART	NASA	CCTV FN	ŒĀ.	иот	CRT				-	J	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-81				DATA: ELINE NEW	[]	
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8158 TVC B AVG			ROL SW				
LEAD ANALYST:	W.C. LONG	;						
ASSESSMENT:								
CRITICAL	NS		CIL	ur.				
FLIGH HDW/FU			В		С		TIEF	1
NASA [/ IOA [3 /3] []	[]	[]] *
COMPARE [N /N] []	[1	[]		[]
RECOMMENDATIONS:	(If dif	feren	t fro	om NAS	A)			
] []	[] .	[]	(AI	[ID/DI] ELETE)
* CIL RETENTION REMARKS:			:	ADEQ INADEQ	UATE UATE	[]	
NO COUNTERPART N	IASA CCTV F	MEA.	NOT	CRITIC	CAL.			

ASSESSME ASSESSME NASA FME	ΝT	I			05/88 MTRK-81	59]		DATA: LINE NEW	[]	
SUBSYSTE MDAC ID:	M:	•		815	M AND S		TROL	. sw		·				
LEAD ANA	LY:	ST	:	w.c	. LONG									
ASSESSME	NT	:												
	CR:		ICAL LIGH		R	EDUN	IDANCY	SCR	REENS			CII		
	1	_	W/FU		A		. В		(2				
NASA IOA	[3	/ /3]	ĵ []	[]	[]		[] *]	
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	DA!	ΓI	ons:	(If dif	fere	ent fr	om N	IASA)					
	[/]	ľ]	. []	Į.]	(AI	[DD/[] DELETI	Ε)
* CIL RE	TE	NT:	ION	RATI	ONALE:	(If	appl	icab	1	ADEQU ADEQU		[]	
NO COUNT	ER	PAI	RT N	ASA	CCTV FI	MEA.	NOT	CRI	TICA	L.				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8	160			N	ASA DA BASELI N		[]
	COMM AND 8160 TVC C PE			FROL :	SW				
LEAD ANALYST:	W.C. LON	īG							
ASSESSMENT:									
CRITICAL FLIGH		ANCY	SCRE	ENS			CIL		
HDW/FU		A	В		C	:			••
NASA [/ IOA [3 /3] []	[]] []		[] *]
COMPARE [N /N] []	[]	[]		[]
RECOMMENDATIONS:	(If di	.fferen	t fr	om NA	SA)				
. [-/] []	[]	[]	(Al	[DD/D:] ELETE
* CIL RETENTION :	RATIONALE	E: (If	appl:	icable	A	DEQUAT		[]
NO COUNTERPART N	ASA CCTV	FMEA.	NOT	CRIT	ICAI	J •			

ASSESSMENT DATE: 3/05/88 ASSESSMENT ID: COMTRK-8161 NASA FMEA #:									1		DATA: LINE NEW	[]	
SUBSYSTE MDAC ID: ITEM:				81	MM AND 1 61 C C NORM			roi	SW					
LEAD ANA	LY	ST	:	W.	c. Long									
ASSESSME	NT	:												
	CR:		ICAL		RI	EDUN	IDANCY	SCR	REENS			CII		
	FLIGHT HDW/FUN				A		В		(C		111	214	
NASA IOA	[3	/3]	[[]	[]	[]		[[]	*
COMPARE	[N	/N]	(]	(]	[]		[3	
RECOMMEN	'DA	TI(ons:		(If dif	fere	ent fr	om N	IASA)					
RECOMMENDATIONS: (ſ]	[]	[]	(AI	_] DELE	TE)	
* CIL RE		NT:	ION	RAT:	IONALE:	(If	f appl	icab	1	ADEQU ADEQU	ATE ATE	[]	
NO COUNT		PA	RT N	ASA	CCTV FN	IEA.	NOT	CRI	TICA	L.				

ASSESSME ASSESSME NASA FME	NT I	D:	3/05 COMT	/88 RK-81	62				NASA DAT BASELIN NE		.]	
SUBSYSTE MDAC ID:			8162	AND T			ITROL	SW				
LEAD ANA	LYST	!:	W.C.	LONG								
ASSESSME	NT:											
		'ICAL 'LIGH		Ŕ	EDUN	DANCY	SCR	EENS		CI	L EM	
-	_	W/FU		A		E	3		С		. 1511	
NASA IOA	[3	/3]]] []]]	*
COMPARE	[N	/N]	[]	[]	[]	[]	
RECOMMEN	DATI	ons:	(I	f dif	fere	nt fr	om N	ASA)				
	[/]	[]	[]	[]	[(ADD/	DELE	TE
* CIL RE	TENT	'ION	RATIO	NALE:	(If	appl	icab		ADEQUATI ADEQUATI	-]	
REMARKS:	ארו מים: אורו מים:	וא שם	3C3 C	מיני ביוי	MTE: X	мол	י מי	ጥፐ උ እ	т.	-	-	

ASSESSME ASSESSME NASA FME	I			/88 RK-81]		DATA: LINE NEW	[]			
SUBSYSTE MDAC ID: ITEM:				8163	AND T			ROL	SW					
LEAD ANA	LY	ST	:	W.C.	LONG									
ASSESSME	NT	:												
	CR		ICAL LIGH		RI	EDUN	DANCY	SCR	EENS			CII		
]	-		NC	A		В		•	С		111	iri	
NASA IOA	[3	/ /3]	נ נ]	[]]]		[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	'DA'	TI	ons:	(I	f dif	fere	nt fr	om N	ASA)					
RECOMMENDATIONS: ([]	[]	[3	(AI	[DD/E] ELE	TE)
* CIL RE	TE	NT:	ION	RATIO	NALE:	(If	appl	icab		ADEQU ADEQU	ATE ATE	[]	
REMARKS:	ER	PAI	RT N	ASA C	CTV FI	ÆA.	NOT	CRI	TICA	L.				

ASSESSME ASSESSME NASA FME		3/05/8 COMTRE				ľ	IASA DA' BASELII N		[]	
SUBSYSTE MDAC ID:	M:	COMM A 8164 TVC C				ROL SW	v				
LEAD ANA	LYST:	W.C. I	LONG								
ASSESSME	NT:										
	CRITICAL FLIGH		RI	EDUND	ANCY	SCREI	ens			CIL	
	HDW/FU		A		В		C	3			:1-1
NASA IOA	[/ [3 /3]	[[]	[]	[]		[] *]
COMPARE	[N /N]	[]	[,]	[]		[]
RECOMMEN	DATIONS:	(If	dif	feren	t fr	om NAS	SA)				
	[/	3	[] .	[1	[]	(A)	[DD/D] ELETE
* CIL RE	TENTION	RATION	ALE:	(If	app1	icable	1	ADEQUAT: ADEQUAT:		[]
	ERPART N	ASA CC	יד עין	MEA.	NOT	CRIT	ICA1	ւ .			

ASSESSMENT DATE: 3/05/88 ASSESSMENT ID: COMTRK-8165 NASA FMEA #:]		DATA: LINE NEW	[]	
SUBSYSTE MDAC ID:	м:			81				k C CON'	FROL	sw					
LEAD ANA	LY	ST	:	W.	c. L	ONG									
ASSESSME	NT	:													
	CR:		ICAL LIGH			RE	DUNI	DANCY	SCRE	ENS			CII		
]	_	W/FU	_		A		В		(C				
NASA IOA	[3	/ /3]	IC A] []] []]	[[]		[]	*
COMPARE	[N	/N]		ָנ <u></u>)	[]	[]		[]	
RECOMMEN	DA'	ΓI	ons:		(If o	diff	erei	nt fr	om NA	SA)					
	[/]		[]]	[]	[]	(AI] DELE	TE)
* CIL RE	TE	NT:	ION	RAT	IONA	LE:	(If	appl	icabl		ADEQU ADEQU	ATE ATE	[]	
REMARKS:	ER	PA:	RT N	ASA	CCTY	V FMI	EA.	NOT	CRIT	'ICA	ւ.				

ASSESSMENT DA ASSESSMENT ID NASA FMEA #:	•	/88 RK-8166		NASA I BASEI]	
SUBSYSTEM: MDAC ID: ITEM:	8166	AND TRACE		L SW			
LEAD ANALYST:	W.C.	LONG					
ASSESSMENT:							
	CALITY LIGHT	REDUNI	DANCY SCI	REENS	CI: IT:		
	/FUNC	A	В	С			
NASA [IOA [3	/] /3]	[]	[]	[]	[] *]	
COMPARE [N	/N]	[]	[]	[]	[]	
RECOMMENDATIO	ons: (1	f differe	nt from 1	NASA)			
[/ 1	[]	[]	[]	[(ADD/] DELET	E,
* CIL RETENTI	ON RATIO	ONALE: (If	applical	ble) ADEQUA INADEQUA]	
REMARKS: NO COUNTERPAR	T NASA C	CTV FMEA.	NOT CR	ITICAL.			

	I	D:	3/05/88 COMTRK-8167						NASA I BASEI		[]			
SUBSYSTE MDAC ID:	M:			COMM 8167 TVC D											
LEAD ANA	LY	ST	:	W.C.	LONG										
ASSESSME	NT	:													
	CR			ITY	RI	EDUND.	ANCY	SCRE	ENS			CIL	ur		
·				NC A			E	3	(3 :		ITEM			
NASA IOA]	[]						-] *]			
COMPARE	[N	/N	3	[]	[]	[]		[]		
RECOMMEN	DA'	ric	ons:	(If	difi	feren	t fr	om NA	SA)						
[/]	[]	[.]	[]	(AI	[D/D/] ELETE)		
* CIL RE	NT:	ION :	RATION	ALE:	(If	appl	icabl		ADEQUA ADEQUA						
	MARKS: COUNTERPART NASA CCTV FMEA. NOT CRITICAL.														

	3/05/88 COMTRK-8168		NASA DATA BASELINE NEW	[]						
MDAC ID:	COMM AND TRACK 8168 TVC D NORM ALC		W								
LEAD ANALYST:	W.C. LONG										
ASSESSMENT:											
CRITICALI FLIGHT		ANCY SCREE	NS	CIL ITEM							
HDW/FUN		В	С	-							
NASA [/ IOA [3 /3] []	[]	[]	[] *						
COMPARE [N /N] []	[]	[]	[]						
RECOMMENDATIONS:	(If differen	t from NAS	A)								
[/] []	[]	[] (A)	[DD/DE] LETE						
* CIL RETENTION F	RATIONALE: (If) ADEQUATE INADEQUATE	[]						
NO COUNTERPART NA	NO COUNTERPART NASA CCTV FMEA. NOT CRITICAL.										

ASSESSME ASSESSME NASA FME	NT	I			/88 RK-81	59			ľ		DATA: LINE NEW	[_	
SUBSYSTEM MDAC ID:				8169			C CONT	ROL	sw					-
LEAD ANA	LYS	T	:	w.c.	LONG									
ASSESSME	NT:	;												
	CRI		ICAL LIGH		RI	EDUN	IDANCY	SCR	REENS			CII		
	F		/FU						C	2				
NASA IOA]	3	/ /3]	[]	[[]	[[]		[] *	k
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	DAT	ŗI(ONS:	(I	f dif	fere	ent fr	om N	IASA)					
	[/	1	C]	[]	[]	(AI	[D/I] DELET	ΓE)
* CIL RE	TEN	1 T :	ION	RATIO	NALE:	(If	appl	icab	ole) INI	ADEQU ADEQU	IATE IATE]]	
REMARKS: NO COUNT	ERI	PA:	RT N	ASA C	CTV F	MEA.	NOT	CRI	TICAL	•				

ASSESSMENT DA ASSESSMENT ID NASA FMEA #:		/88 RK-8170	1	NASA BASE	LINE	[]		
SUBSYSTEM: MDAC ID: ITEM:	8170	AND TRAC		ROL SV	Ī				
LEAD ANALYST:	W.C.	LONG							
ASSESSMENT:									
		REDUN	DANCY	SCREI	ens			CIL	,
	GHT FUNC	A	В	В				115	1
NASA [IOA [3	'] '3]	[]	[]]]		[]] *
COMPARE [N	′ท]	[]	[]	[]		[]
RECOMMENDATIO	ıs: (I	f differe	nt fr	om NAS	SA)				
[']	[]	[]	[]	(AI	[D/DI] ELETE)
* CIL RETENTI REMARKS:	N RATION	NALE: (If	appl	icable	1	ADEQU ADEQU]]
NO COUNTERPAR	NASA C	CTV FMEA.	TON	CRIT	[CA]	L.			

ASSESSME ASSESSME NASA FME	NT	ID:	3/05/8 COMTRE		N	LINE NEW	[]				
SUBSYSTE MDAC ID: ITEM:			COMM A 8171 RMS WE			PEAK	ALC C	CONT	rol	sw		
LEAD ANA	LYS	T:	W.C. I	LONG								
ASSESSME	ENT:											
		TICAL:		RE	DUNDA	ANCY	SCREE	ens			CIL	r.
		FLIGHT DW/FU				В		C		TIE	1	
NASA IOA	,			[]	[]	[]		[] *]
COMPARE	[n /n]	[]	[]	[]		[]
RECOMMEN	IDAT	ions:	(If	diff	erent	t fro	om NAS	SA)				
	C	/	1	[]	[]	[.]	(AI	[DD/DI] ELETE)
* CIL RE	ETEN	TION 1	RATIONA	ALE:	(If a	appl:	icable	7	ADEQU ADEQU	JATE JATE	[]
REMARKS:		א ייים או	አፍኔ ሮሮባ	ቦና <i>ን</i> ፑን	(FA	NOT	CRITT	CAT				

ASSESSME ASSESSME NASA FME		3/05/8 COMTRI	72			NA E]				
SUBSYSTE MDAC ID:		COMM A 8172 RMS W				ALC (CONTR	OL SW				
LEAD ANA	LYST:	W.C. 1	LONG									
ASSESSME	NT:											
	CRITICAL		RI	EDUND	ANCY	SCREI	ens		CI			
	FLIGH HDW/FU				В		С		11	ITEM		
NASA [/ IOA [3 /3]	[]	[]	[]	[] *]		
COMPARE	[и/и]	[]	[]	[]	[]		
RECOMMEN	DATIONS:	(If	dif	feren	t fro	om NAS	SA)					
	1	[]	[]	[] (4	[ADD/] 'DELETE			
REMARKS:				·			IA IANI	EQUATE EQUATE]		
NO COUNT	ERPART N	ASA CC	I'V F	MEA.	NOT	CRIT	LCAL.	ı				

ASSESSMEN ASSESSMEN NASA FME	II		3/05/88 COMTRK-8173					NASA DATA: BASELINE [] NEW []						
SUBSYSTEM MDAC ID:	M:			817	M AND 1 3 WRIST			ALC	c con	TROL	sw	(PEA	K)	
LEAD ANA	LYS	ST	:	W.C	. LONG									
ASSESSME	NT:	:												
•	CR:		ICAL LIGH	ITY T	RI	EDUI	NDANCY	SCF	REENS	}		CI IT		
	1		W/FU	INC A		В			С		F 3			
NASA IOA	[3	/ /3]	[]	[]]]		[]	*
COMPARE	[N	/N]	[]	[]	[1		[]	
RECOMMEN	DA:	ric	ons:	(If diff	fere	ent fr	om N	IASA)					
		/]	[]	- []	ĺ]	. ([ADD/] DELI	ETE	
* CIL RE	NT:	ION	RATI	ONALE:	(Ii	f appl	icak		ADEQU ADEQU		-]		
REMARKS:	ימק	וגח	וא ויים	'A C' A		ate x	NOT	CDI				•	•	

ASSESSME ASSESSME NASA FME	NT ID:		88 K-8174			N.	X: E [V []		
SUBSYSTE MDAC ID:		8174	AND TRAC		ALC	CONT	ROL SW	-		
LEAD ANA	LYST:	W.C.	LONG							
ASSESSME	NT:									
	CRITICAL FLIGH		REDU	NDANCY	SCR	EENS		CII		
	HDW/FU					С				
NASA IOA	[/ / 3 /3]	[]	[]	[]	[] *	
COMPARE	[N /N]	[]	ſ]	[]	[]	
RECOMMEN	DATIONS:	(If	differe	ent fro	om N	ASA)				
	[/		[]	[1.	[] (2	[ADD/I] DELETE	
	TENTION	RATION	ALE: (I:	f appl:	icab	A	DEQUATE DEQUATE	_]	
REMARKS: NO COUNTERPART NASA CCTV FMEA. NOT CRITICAL.										

ASSESSME ASSESSME NASA FME		•)5/88 MTRK-817	NASA DATA: BASELINE [] NEW []												
SUBSYSTE MDAC ID: ITEM:	M:			817	MM AND 175 WRIST					•	W					
LEAD ANA	LY	ST	:	W.C	. LONG											
ASSESSME	NΤ	:														
	CR:		ICAL LIGH		RE	DUN	DANCY	SCF	REENS			CII				
]				. A			,	C	C						
NASA IOA	[3	/3]	[]	[]	[]		[[]	*		
COMPARE	[N	/N]	[]	[]	[]		[]			
RECOMMEN	DA'	TI	ons:	((If diff	ere	nt fr	om N	IASA)							
			/]	C] .	[]	[]	(AI	[D/1] DELE	TE)		
* CIL RE	NT:	ION	RATI	ONALE:	(If	appl	icab	A	DEQU DEQU	ATE ATE	[]				
REMARKS:	. כנים	י א רו	יי חם	303	ACA COMU EMEA NOT CRITT							le.				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-81		NASA DATA: BASELINE [] NEW []									
	COMM AND 8176 RMS WRIST			ALC CO	NTR	OL S	Ň					
LEAD ANALYST:	W.C. LONG	;										
ASSESSMENT:												
CRITICAL FLIGH		REDUND	ANCY	SCREE	ns			CIL	wī			
HDW/FU	-	\	В		С			*****	••			
NASA [/ IOA [3 /3] []]]	[[]		[] *			
COMPARE [N /N] []	[]	[]		[]			
RECOMMENDATIONS:	(If dif	feren	t fr	om NAS	A)							
\]] [.]	[] .	[.]	(AI	[DD/DI] ELETE)			
* CIL RETENTION REMARKS:		•			A INA	DEQUA		[]			
NO COUNTERPART N	O COUNTERPART NASA CCTV FMEA. NOT CRITICAL.											

ASSESSME ASSESSME NASA FME	ΝT	I		3/05/88 COMTRK-8177					NASA DATA: BASELINE [] NEW []						
SUBSYSTEM MDAC ID: ITEM:	M:			817	M AND S 7 ELBOW			ALC	CONT	ROL	SW (PEA	K)		
LEAD ANA	LY:	ST	:	W.C	. LONG										
ASSESSME	NT	:													
•	CR:		ICAL LIGH		R	EDUI	NDANCY	SCR	REENS			CII			
]			INC A B			C								
NASA IOA	[3	/ /3]	[]	[]	[[]		[[] *		
COMPARE	[N	/N]	[]	[]	[]		[]		
RECOMMEN	DA!	rI	ons:	(:	If dif	fer	ent fro	om N	IASA)						
],	[′]	. [.]	(]	(A	[\DD/1] DELETE	2)	
* CIL RE	ΓE	nt:	ION	RATI(ONALE:	(I:	f appl:	icab	A	DEQU DEQU	UATE UATE	[]		
REMARKS:	ER:	PA)	RT N	ASA (CCTV FI	MEA	. NOT	CRI	TICAL	•					

ASSESSME ASSESSME NASA FME	NT	I			05/88 MTRK-8	178			1		DATA: ELINE NEW	[]	
SUBSYSTE MDAC ID: ITEM:	M:			81	MM AND 78 S ELBO			ALC	CON	rol	sw			
LEAD ANA	LY	ST	:	W.	c. Lon	G .								
ASSESSME	SESSMENT:													
	CR		ICAL			DANCY	SCR	EENS			CII			
	1		LIGH W/FU			A	В		(2		111	214	
NASA IOA	[3	/3]	[[]	[[]]]		[]	*
COMPARE	[N	/N]	[]	[]	[1		(]	
RECOMMEN	DA'	TI	ons:		(If di	ffere	nt fr	om N	IASA)					
	[/]	[] .	[]	[1	(AI	[\dc	DELE	ETE)
* CIL RE						·			IN	ADEQ	UATE UATE	[]	
NO COUNT	ER	PA	RT N	ASA	CCTV	FMEA.	NOT	CRI	TICA:	ւ.				

ASSESSME ASSESSME NASA FME	ENT	I			05/8 MT RK		79			ħ		DATA: LINE NEW	[]	
SUBSYSTE MDAC ID:				81	79		TRACE	NORM	ALC	CONT	rol	sw			
LEAD ANA	LY	ST	:	W.	c. L	ong									
ASSESSME	SESSMENT:														
					DANCY	SCRE	ENS			CIL					
		LIGH W/FU	_		A		В		C	2		TIEN	1		
NASA IOA	[3	/3]		[]	[]	[]		[]	*
COMPARE	[N	/N]		(]	[]	[]		[]	
RECOMMEN	IDA'	TI	ons:		(If	diff	ferer	nt fr	om NA	SA)					
	[/]		[]	[]	[]	(AD	[D/DI] ELE	TE)
* CIL RE		NT:	ION	RAT	IONA	LE:	(If	appl	icabl	I		JATE JATE	[]	
NO COUNT		PA	RT N	ASA	CCT	V FN	IEA.	NOT	CRIT	'ICAI					

	ASSESSMI ASSESSMI NASA FMI	ENT	II)5/88 ITRK-81	80]	NASA BASE		[]	
	SUBSYSTI MDAC ID: ITEM:				818	M AND 30 5 ELBOW			ALC	: CON	rol .	SW			
	LEAD ANA	ALY	ST	:	W.C	. LONG									
	ASSESSMI	ENT	:												
			F	LIGI				idancy _			_		CIL		
]	HDI	W/Ft	JNC	A		B		•	C				
	NASA IOA	[3	/3]	[[]]]	[[]		[]	*
	COMPARE	[N	/N]	[]	[]	[]		[]	
	RECOMME	NDA'	TI	ONS	•	(If dif	fere	ent fr	om N	IASA)					
,		. [/]	[]	[]	[]	(AI	[DD/D] ELE	TE
	* CIL RI		NT:	ION	RAT	ONALE:	(II	appl	icak		ADEQU ADEQU		[]	

NO COUNTERPART NASA CCTV FMEA. NOT CRITICAL.

ASSESSME ASSESSME NASA FME	NT	I			5/88 TRK-818	31			N		DATA: LINE NEW	[]	
SUBSYSTE MDAC ID: ITEM:				818	M AND 1 1 E ELBOW						w			
LEAD ANA	LY	ST	:	W.C	LONG									
ASSESSME	NT	:												
	CR		ICAL LIGH		RI	EDUN	IDANCY	SCR	REENS			CII		
]		W/FU		A		В		C	!				
NASA IOA	[3	/3]	[]	[]	[]		[] *	
COMPARE	[N	/N]	[]	[[]		[]	
RECOMMEN	DA'	TI:	ons:	(If diff	ere	ent fr	om N	(ASA					
	[/]	[]	[]	[]	(AD	[D/I] DELETI	Ξ)
* CIL RE	TE	NT:	ION	RATI	ONALE:	(If	appl	icab		DEQU DEQU	ATE ATE	[]	
REMARKS:	ER:	PA	RT N	ASA	CCTV FM	ΙΈΑ.	тои	CRI	TICAL	١.				

ASSESSME ASSESSME NASA FME	NT ID:	3/05/8 COMTRI		2				ASA DATA BASELINI NEV	Ε []	
SUBSYSTE MDAC ID: ITEM:	M:	COMM A 8182 RMS EI			.VG A	TC CC	ONTRO	OL SW			
LEAD ANA	LYST:	W.C. 1	LONG								
ASSESSME	NT:										
	CRITICAL		RE	DUNDA	NCY	SCREE	ens		CI	L EM	
	FLIGH HDW/FU	-	A		В		С		T 1	LIPI	
NASA IOA	[3 /3]	[]	[]	[[]	[]	*
COMPARE	[N /N	1	[]	[]	C]	[]	
RECOMMEN	DATIONS:	(If	diff	erent	fro	om NAS	5A)				
	[/]	[]	[]	[] (2	[ADD/	DELE	ETE
REMARKS:							A) INA	DEQUATE DEQUATE]	
NO COUNT	ERPART N	ASA CC	rv fm	EA.	TON	CRIT	[CAL	•			

ASSESSME ASSESSME NASA FME	ΝТ	I)5/88 MTRK-8	183			ľ	5 MARKET NO. 101	DATA LINE NEW	[]	
SUBSYSTE MDAC ID: ITEM:				818	MM AND 33 DECK			ALC	CONT	OL S	W (P	EAK))	
LEAD ANA	LY	ST	:	W.C	c. Lone	G								
ASSESSME	NT	:												
	CR:		ICAL LIGH		:	REDUN	IDANCY	SCR	EENS			CII		
]	_	W/FU		•	A.	E	3		:				
NASA IOA	[3	/ /3]	[]	[]	[]		[]	*
COMPARE	[N	/N	3	[]	[1	[]		[]	
RECOMMEN	DA'	ri(ons:	((If di	ffere	ent fr	om N	ASA)					
	[/	J	[]	[]	[]	(A	[DD/1	DELE	TE)
* CIL RE	TE)	NT:	ION	RATI	ONALE	: (If	appl	icab	2	ADEQU ADEQU	ATE ATE	[]	
NO COUNT	ER.	PA:	RT N	ASA	CCTV	FMEA.	ron	CRI	TICAI					

ASSESSME ASSESSME NASA FME	NT ID:	3/05/ COMTR		34				ASA DA' BASELI N	NE	[]
SUBSYSTE MDAC ID:		COMM 8184 FLT D				ALC C	ONTR	ol sw			
LEAD ANA	LYST:	W.C.	LONG								
ASSESSME	NT:										
	CRITICAL		RI	EDUND	ANCY	SCRE	ENS			CIL	
	FLIGH HDW/FU		A		В		C			111	M
NASA IOA	[/ [3 /3]	[]	[]	[[]] [] *
COMPARE	[N /N]	[]	[]	[1		C]
RECOMMEN	DATIONS:	(If	dif	feren	t fr	om NA	SA)				
	[/]	[]	[1.	[]	(AI	[D/D] ELETE
* CIL RE	TENTION	RATION	ALE:	(If	appl	icabl	A	DEQUAT DEQUAT		[]
	ERPART N	ASA CC	TV F	MEA.	пот	CRIT	ICAL	1•			

ASSESSMI ASSESSMI NASA FMI	ENT	I				85			1		DATA: LINE NEW	[_	
SUBSYSTEMDAC ID:				818				ALC	CONT	ROL S	W			
LEAD ANA	LY	ST	:	W.C	. LONG									
ASSESSME	ENT	:												
	CR		ICAL LIGH		R	NDANCY	SCR	EENS			CI:			
			W/FU		A		E	3	(2	٠.			
NASA IOA	[3	/ /3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	[]	ſ]	[]		[]	
RECOMMEN	IDA'	TI(ons:	(If dif	fere	ent fr	om N	ASA)					
			/]	[1.	[]	[]] DELE	
* CIL RE		NT:	ION	RATI	ONALE:	(If	f appl	icab	Ī	ADEQU ADEQU	ATE ATE	[]	
NO COUNT		PA:	RT N	ASA	CCTV FI	MEA.	ron	CRI	TICAL					

ASSESSMEN ASSESSMEN NASA FME	NT ID:	3/05/8 COMTR		86			1	NASA D BASEI		[]	
SUBSYSTEMDAC ID:		COMM 2 8186 FLT D				ALC (CONTI	ROL SW	I			
LEAD ANA	LYST:	W.C.	LONG	;								
ASSESSME	NT:											
	CRITICAI FLIGH		R	EDUNI	DANCY	SCRI	EENS			CIL		
		INC	A		E	3	(2			•	
NASA IOA	[3 /3]] []	[[]	[]		[] *	
COMPARE	[N /N]	[]	[]	[]		[]	
RECOMMEN	DATIONS:	: (If	dif	fere	nt fr	om N	ASA)					
	/]	[]	[]	[]	(Al	[D/DC] ELETI	E)
* CIL RE	TENTION	RATION	ALE:	(If	appl	licab	1	ADEQU <i>I</i> ADEQU <i>I</i>		[]	
NO COUNT	ERPART 1	NASA CC	TV F	MEA.	LON	CRI'	TICA:	L.				

ASSESSME ASSESSME NASA FME	ΝT	I		•	5/88 TRK-81	87			N		DATA LINE NEW]	
SUBSYSTE MDAC ID: ITEM:				818	M AND T 7 DECK T			LC C	ONTRO	L SW	ī			
LEAD ANA	LY	ST	:	W.C	. LONG									
ASSESSME	NT	:												
	CR:		ICAL LIGH		RI	EDUI	NDANCY	SCR	EENS			CII		
	1		W/FU		A		В	}	C			111	3P1	
NASA IOA	[3	/ /3]	[]	[]	[]		[] *	
COMPARE	ſ	N	/N]	[]	C]	[]		[]	
RECOMMEN	DA!	ΓI	ons:	(If dif	fere	ent fr	om N	ASA)					
	[/]	[]	[]	[]	(A	[DD/I] DELETE	3)
* CIL RE	TEI	YT:	ION :	RATI	ONALE:	(11	f appl	icab	A		ATE ATE]	
NO COUNT	ER	PAI	RT N	ASA	CCTV FN	ΊΕΑ.	NOT	CRI	TICAL					

ASSESSMENT ASSESSMENT NASA FMEA #	ID:	3/05/8 COMTRE		38			Ŋ	IASA I BASEI	LINE	[]
SUBSYSTEM: MDAC ID: ITEM:		COMM A 8188 FLT DE				LC CON	TRO	ol sw			
LEAD ANALYS	T:	W.C. I	ONG								
ASSESSMENT:											
CRI			CIL	я							
	FLIGH DW/FU		A		В		C	2		T. 1. 1. 1.	•
NASA [IOA [3 /3]	[]	[[]	[]		[[] *
COMPARE [n /n]	[]	[]	[]		[]
RECOMMENDAT	ions:	(If	dif	ferent	t fro	om NAS	A)				
	/]	[1	[]	[]	(AI	[DD/DE] ELETE)
* CIL RETEN				•			INA	ADEQUA ADEQUA		[]
NO COUNTERP	ART N	ASA CCI	'V FI	MEA.	TON	CRITI	.CAI				

ASSESSME ASSESSME NASA FME	NT	I			5/88 ITRK-8:	189			1	IASA BASE		[]	
SUBSYSTE MDAC ID:	M:			818	M AND 9 FLT I			EAK	ALC (CONTR	ol s	W (PEAK)	
LEAD ANA	LYS	ST	:	W.C	LONG	3								
ASSESSME	NT:	:												
1	CR]		ICAL LIGH		I	REDUN	IDANCY	SCR	EENS			CI		
	F	HDI	W/FU	NC	1	A	E	3	C					
NASA IOA	[3	/ /3]	[]	[]	[]		[] *]	
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	DAI	ri(ons:	(If di	ffere	ent fr	om N	ASA)					
	[/]	ſ]	[]	[]	(A	[DD/:] DELETI	Ξ,
* CIL RE	TEN	VT:	ION :	RATI	ONALE	(If	appl	icab	·	DEQU DEQU	ATE ATE	[]	
REMARKS:	ERI	PAI	RT N	ASA	CCTV I	FMEA.	тои	CRI						

ASSESSME ASSESSME NASA FME	NT ID:	3/05/8 COMTRI		90]	NASA DA BASELI N		: [[]
SUBSYSTE MDAC ID:		COMM A 8190 MID DI				ALC C	ONT	ROL SW			
LEAD ANA	LYST:	W.C. 1	LONG								
ASSESSME	NT:										
	CRITICAL		R	EDUND	ANCY	SCRE	ENS			CIL	
	FLIGH HDW/FU		A		В		(С		11E	M
NASA IOA	[/ [3 /3]	[]	[]]]		[] *]
COMPARE	[N /N]	[]	[]	[]		[.]
RECOMMEN	DATIONS:	(If	dif	feren	t fr	om NA	SA)				
]	[]	[]	[]	(Al	[DD/D] ELETE)	
REMARKS:				·			IN	ADEQUAT ADEQUAT -		[]
NO COUNT	ERPART N	iasa cc:	rv fi	NOT	CRIT	TCA	L.				

ASSESSMEN ASSESSMEN NASA FME	Į		•	5/88 TRK-81	91					DATA LINE NEW	[]	
SUBSYSTEM MDAC ID:	M:			819	M AND 1 FLT D			ORM	ALC C	ONTR	ol s	W	
LEAD ANA	LY	ST	:	W.C	. LONG	}							
ASSESSME	NT	:											
	CR:		ICAL LIGH		Ŕ	EDUN	IDANCY	SCR	EENS			CII	
]		W/FU		A		В		C				J11
NASA IOA	[3	/3]]]	[]	[]]] *]
COMPARE	[N	/N]	[]	[]	[3 .		[]
RECOMMEN	DA!	ΓI	ons:	(If dif	fere	ent fr	om N	(ASA)				
	[/]	[]	(]	[]	(A	[DD/I] DELETE
* CIL RE	TEI	NT:	ION	RATI	ONALE:	(If	appl	icab		DEQU DEQU	ATE ATE	[]
REMARKS:	ER	PA	RT N	ASA	CCTV F	MEA.	TON	CRI	TICAL	•			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-819	92			DATA: ELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	COMM AND S 8192 MID DECK S		ALC CO	ONTROL	sw		
LEAD ANALYST:	W.C. LONG						
ASSESSMENT:							
CRITICAL FLIGH	ITY R	EDUNDANC	Y SCREI	ens		CIL	
HDW/FU			В	С		<u> </u>	••
NASA [/ IOA [3 /3] [] []			[] *
COMPARE [N /N] [] []	[]		[1
RECOMMENDATIONS:	(If dif	ferent f	rom NAS	SA)			
′ [/.] [] [1	[]	(Al	[D/D] ELETE
* CIL RETENTION REMARKS:	RATIONALE:	(If app	olicable	e) ADEÇ INADEÇ	UATE QUATE	•]
NO COUNTERPART N	ASA CCTV F	MEA. NO	T CRIT	ICAL.			

ASSESSME ASSESSME NASA FME	NΤ	I		2	05/88 MTRK-8	3193			1		DATA LINE NEW	[]	
SUBSYSTE MDAC ID:	M:			81	MM ANI 93 D FLT			AVG A	LC CO	ONTRO	L SW			
LEAD ANA	LY	ST	:	W.	C. LON	IG								
ASSESSMENT:														
	CR:		ICAL LIGH			REDU	NDANC	SCR	EENS			CI		
	1		W/FU			A	I	3	(2		***	-	
NASA IOA	[3	/3]]]	[]				[]	*
COMPARE	[N	/N]	[]	(]	[]		[]	
RECOMMEN	DA:	ri(ONS:		(If di	ffere	ent fi	om N	ASA)					
	[/]	[]	<u>-</u> []	[]	(A	[DD/1] DELE	TE)
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []														
NO COUNTERPART NASA CCTV FMEA. NOT CRITICAL.														

ASSESSME ASSESSME NASA FME	NT	I		-	05/88 MTRK-819	94			ì	IASA BASE		: [[]	
SUBSYSTE MDAC ID:	M:			819	MM AND 1 94 D DECK 1			LC C	CONTRO	OL SW				
LEAD ANA	LY	ST	:	W.	c. Long									
ASSESSME	NT	:												
	CR:		ICAI		RI	EDUN	IDANCY	SCF	REENS			CII		
	1	_	LIGH W/FU		A		В	,	(2		115	,M	
NASA IOA	[3	/ /3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	'DA'	ΤI	ons:		(If dif:	fere	ent fr	om 1	NASA)					
	Ţ		/]	[]	[]	[]	(Al	[DD/I) ELF	ETE)
* CIL RE	TE:	NT	ION	RAT	IONALE:	(II	appl	icak	7	ADEQU ADEQU		[]	

NO COUNTERPART NASA CCTV FMEA. NOT CRITICAL.

ASSESSME ASSESSME NASA FME	NT	I		•	05/88 MTRK-819	95			N		DATA LINE NEW	[]	٠,
SUBSYSTE MDAC ID: ITEM:	M:			819	MM AND 1 95 C A WHI			GAMM	MA CON	TROI	.SWI	тсн	Ţ.	
LEAD ANA	LY	ST	:	W.	c. Long									
ASSESSME	NT	:												
	CR:		ICAL LIGH		RI	EDUI	NDANCY	SCF	REENS			CI	L EM	
	1	_	W/FU		A		В		c	:		11	EPI	
NASA IOA	[3	/3]	[[]	[]	[]		[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	DA:	rI(ons:	;	(If dif	fer	ent fr	om N	IASA)					
	/]	[]	[]	[]	(A)	[DD/	DEL:	, ETE		
* CIL RE	TEI	NT:	ION	RAT	IONALE:	(I:	f appl	icab	À	DEQU		[]	
NO COUNT	ERI	PA	RT N	ASA	CCTV FI	MEA.	. NOT	CRI	TICAL					

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8196		NASA DATA BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	COMM AND TRAC 8196 TVC A WHITE S		CONTROL SWI	тсн
LEAD ANALYST:	W.C. LONG			
ASSESSMENT:				
CRITICAL FLIGH		NDANCY SCRE	ENS	CIL ITEM
HDW/FUI		В	C ·	TIEM
NASA [/ IOA [3 /3] []	[]	[]	[] *
COMPARE [N /N] []	[]	[]	[]
RECOMMENDATIONS:	(If differ	ent from NA	SA)	
[/] []	[]	[.] (A	[] .DD/DELETE
* CIL RETENTION I	RATIONALE: (I	f applicabl	e) ADEQUATE INADEQUATE	[]

NO COUNTERPART NASA CCTV FMEA. NOT CRITICAL.

ASSESSME ASSESSME NASA FME	ΝT	I			5/88 TRK-819	97					DATA: ELINE NEW	[]	
SUBSYSTE MDAC ID: ITEM:				819	M AND 1 7 A NORM		J.K		ROL SW		H			
LEAD ANA	LY	ST	:	W.C	. LONG									
ASSESSME	NT	:												
	CR			ITY	RI	EDU	NDANCY	SCF	REENS			CI	L EM	
	FLIGHT HDW/FUNC				A		В	÷	С			**	LIT	-
NASA IOA	[3	/3]	[]	[]	[]		[]	*
COMPARE		N	/N]	[]	(]	[]		[]	
RECOMMEN	IDA'	TI	ons:	(If diff	fere	ent fr	n n	NASA)					
			[]	[]	[3	(AI	[/Q/	DEL.	ETE)		
* CIL RE		NT:	ION	RATI	ONALE:	(II	f appl:	icak	A		JATE JATE	[]	
NO COUNT		PA	RT N	ASA	CCTV FI	ΊEΑ.	. NOT	CRI	[TICAL	•				

ASSESSME ASSESSME NASA FME	NT ID:	3/05/ COMTF		.98			N	IASA DATA BASELINI NEV]
SUBSYSTE MDAC ID: ITEM:	M:	COMM 8198 TVC F			K MMA CO	ONTR	OL SW	/ITCH		
LEAD ANA	LYST:	w.c.	LONG	;						
ASSESSME	NT:									
	CRITICAL		F	REDUN	DANCY	SCR	EENS		CII	
	FLIGH HDW/FU		A	A	В		C	2	*11	211
NASA IOA	[3 /3]	[]	[[]]]	[] *
COMPARE	[N /N	1	[]	[]	[]	[]
RECOMMEN	DATIONS:	(Ii	f dif	ffere	nt fr	om N	ASA)			
	[/]	[]	[']].		[ADD/I] DELETE
* CIL RE		RATION	VALE:	: (If	appl	icab	1	ADEQUATE ADEQUATE]
NO COUNT	ERPART N	IASA CO	CTV F	FMEA.	NOT	CRI	TICAI			

ASSESSMENT DATE: 3/05/88 ASSESSMENT ID: COMTRK-8199 NASA FMEA #:									1	NASA BASE	LINE		-	
SUBSYSTE MDAC ID: ITEM:				819	9	TRACK S		GAMM	A COI	VTROL	SWI	тсн		
LEAD ANA	LY	ST	:	W.C	. LON	1G								
ASSESSME	NT	:												
	CR:					REDUN	IDANC	SCR	EENS			CII		
	1		LIGH W/FU			A	I	3	(2		TIT	21M	
NASA IOA	[3	/3]] []	[[]	[]		[[] *]	
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	DA'	TI	ons:	(If di	iffere	ent fi	com N	ASA)					
	[/]	[`]	[·]	Ţ]	(A	-) DELET	E)
* CIL RE	TE	NT:	ION	RATI	ONALI	E: (If	appl	licab		ADEQU ADEQU	ATE ATE	[]	
REMARKS:	ER:	PA	RT N	ASA	CCTV	FMEA.	ron	CRI	TICA	٠.				

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:		88 K-8200		N	ASA DATA BASELINE NEW	: []
SUBSYSTEM: MDAC ID: ITEM:	8200	AND TRAG	CK STRCH GAI	MMA CON	TROL SWI	тсн	
LEAD ANALYST:	W.C.	LONG					
ASSESSMENT:							
		REDU	NDANCY S	CREENS		CII	
FLIG HDW/F		A	В	c	:	111	ari
NASA [/ IOA [3 /3]	[]	[]]]	[[] *]
COMPARE [N /N]	[]	[]	ĺ]	[]
RECOMMENDATIONS	: (If	differ	ent from	NASA)			
[/]	[]	[·]	[] (2	[ADD/I] DELETE
* CIL RETENTION REMARKS:	RATION	ALE: (I		INA	DEQUATE	[]
NO COUNTERPART	NASA CC	TV FMEA	. NOT C	RITICAI	•		

ASSESSME ASSESSME NASA FME	I			05/88 MTRK-820	01			N		DATA LINE NEW	[]		
SUBSYSTE MDAC ID: ITEM:				820	MM AND '			GAMM	IA CON	TROL	, SWI	тсн		
LEAD ANA	LY	ST	:	W.	c. Long									
ASSESSME	NT	:												
	CR:		ICAL LIGH		R	EDUI	NDANCY	SCR	REENS			CII	_	
	1		W/FU		A		В		C	1				
NASA IOA	[3	/3]	[]	[]	[]		[[]	*
COMPARE	[N	/N]	[]	[]	C]		[]	
RECOMMEN	DA'	ri	ons:	((If dif	fere	ent fr	om N	IASA)					
] [/]							[]	[]	(A)	[DD/I] DELE	TE)
* CIL RE	TE	NT:	ION :	RAT]	ONALE:	(I	f appl:	icab	A		ATE ATE]	
REMARKS: NO COUNTERPART NASA CCTV FMEA. NOT CRITICAL.														

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-82	202				ASA DATA BASELINI NEV	ਤ []
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8202 TVC B WHI			GAMMA	CON	TROL SWI	гтсн	
LEAD ANALYST:	W.C. LONG	}						
ASSESSMENT:								
CRITICAL FLIGH		REDUNI	DANCY	SCRE	ENS		CIL	
HDW/FU		A	В		C			-
NASA [/ IOA [3 /3] []	[]	[]	[] *]
COMPARE [N /N] []	[]	[]	[]
RECOMMENDATIONS:	(If di	ffere	nt fr	om NA	SA)			
. [/) []	ľ]	[[ADD/D] ELETE
* CIL RETENTION :	RATIONALE:	: (If	appl	icabl	A	DEQUATE DEQUATE	[]
NO COUNTERPART N	ASA CCTV I	FMEA.	NOT	CRIT	ICAL			

ASSESSMI	ASSESSMENT DATE: 3/0 ASSESSMENT ID: COM NASA FMEA #:								1	BASE	DATA: LINE NEW	[]	-
SUBSYSTI MDAC ID: ITEM:				820	M AND '									
LEAD AN	ALY	ST	:	W.C	. LONG									
ASSESSMI	ENT	:												
	CR				RI	EDUN	DANCY	SCF	REENS			CIL		
]				A		E	3	c	•		ITE	PI.	
NASA IOA	CRITICALIT FLIGHT HDW/FUNC NASA [/] IOA [3 /3]				[]]]	[]]] *	
COMPARE	[N	/N]	C]	[]	[]		[.]	
RECOMME	NDA!	rio	ons:	(:	If dif	fere	nt fr	om N	IASA)					
	[/]	[]	[1	(]	(A£	[D/D] ELET	E)
* CIL RI		NT:	ION	RATI(ONALE:	(If	appl	icab	A		ATE ATE]	
REMARKS		PAI	RT N	ASA (CCTV FI	ΊΕΑ.	NOT	CRI	TICAL					÷

ASSESSME ASSESSME NASA FME		3/05/8 COMTR		4				ASA DATA BASELINE NEW	[]	
SUBSYSTE MDAC ID:		COMM 2 8204 TVC B				ONTRO	L SW:	ITCH			
LEAD ANA	LYST:	W.C.	LONG								
ASSESSME	NT:										
	CRITICAL FLIGH		RE	DUND	ANCY	SCRE	ens		CII		
	HDW/FU		A		В		C			11.1	
NASA IOA	[/ 3 /3]	[]	[]	[]	[[] *	c
COMPARE	[N /N]	[]	[]	[]	[]	
RECOMMEN	DATIONS:	(If	diff	eren	t fr	om NAS	SA)				
	[/	1	[]	[1	[] (2	[MDD/I) DELET	Έ
* CIL RE	TENTION	RATION	ALE:	(If	appl:	icable	A.	DEQUATE DEQUATE]	
NO COUNT	ERPART N	ASA CC	TV FM	ŒΑ.	TON	CRIT	ICAL	•			

ASSESSME ASSESSME NASA FME	NT	I					5				NASA DASEL		[•	
SUBSYSTE MDAC ID:				820					GAMM <i>A</i>	C	ONTROL :	riwa	сн		
LEAD ANA	LY	ST	:	W.(c. L	ONG									
ASSESSME	NT	:													
	CR:		ICAL			RE	DUNI	DANCY	SCRE	EENS	5		CIL		
]		LIGH W/FU			A		В			С		116	111	
NASA IOA	HDW/FUNC NASA [/] IOA [3 /3]					[]	[]	[]]]	*
COMPÂRE	[N	/N]		[]	[1	[]		[]	
RECOMMEN	DA'	ri(ons:		(If	diff	erer	nt fr	om NA	\SA))				
		/]		(]	[]	[]	(AI	[D/D] ELE	TE)	
* CIL RE	TE)	NT:	ION	RAT:	IONA	LE:	(If	appl	icabl	•	ADEQUA'		[]	
REMARKS:	FD.	וגס	מייים	ACA	CCT	ty FM	ΈΔ.	NOT	CRTT	ידכז	ΔT				

ASSESSME ASSESSME NASA FME	NT ID:	3/05/COMTR)6				ASA DA BASELI 1		[]
SUBSYSTE MDAC ID:		COMM 8206 TVC B				GAMMA	CON	TROL S	VIW	гсн	
LEAD ANA	LYST:	W.C.	LONG								
ASSESSME	NT:										
	CRITICAL FLIGH		RI	EDUNE	ANCY	SCRE	ENS			CII	_
	HDW/FU		A		В		C				
NASA IOA	[/ [3 /3]	[]	[]	[]		[] *
COMPARE	[N /N]	[]	. []	[]		[]
RECOMMEN	DATIONS:	(If	dif	feren	nt fr	om NA	SA)				
	[/]	ι.]	[3	[]	(Al	[DD/I] DELETE
REMARKS:				·			INA	DEQUA'		-]
NO COUNT	ERPART N	IASA CC	TV FI	MEA.	\mathbf{NOT}	CRIT	TCAL	•			

ASSESSME ASSESSME NASA FME	I			05/88 MTRK-82	07			N		DATA LINE NEW	[]	
SUBSYSTE MDAC ID: ITEM:	M:			82	MM AND ' 07 C C WHI'			GAMM	IA CON	TROL	. SWI	гсн	
LEAD ANA	LY:	ST	:	W.	c. Long								
ASSESSME	NT	:											
	CR:				R	EDUI	NDANCY	SCR	EENS			CII	
·					A		В		c	!		ITE	SM
NASA IOA	HDW/FUNC NASA [/] IOA [3 /3]				[[]	[]	[]		[] *
COMPARE	[N	/N	3	ſ]	[]	[]		[]
RECOMMEN	DA!	ΓI	ons:		(If dif:	fere	ent fr	om N	ASA)				
RECOMMENDATIONS: ([]	[]	[]	(A)] DELETE)
* CIL RE	TEI	NT:	ION	RAT	IONALE:	(I:	f appl	icab	A		ATE ATE]
REMARKS:	ER	PA	RT N	ASA	CCTV FI	ÆA.	NOT	CRI	TICAL	•			

ASSESSME ASSESSME NASA FME	NT ID:	3/05/ COMTE		808			ı	IASA DAT BASELIN NE	IE []
SUBSYSTE MDAC ID:	M:	COMM 8208 TVC C				GAMM	A COM	ITROL SW	ITCH	
LEAD ANA	LYST:	W.C.	LONG	;					-	
ASSESSME	NT:									
	CRITICAL		F	REDUN	DANCY	SCR	EENS		CII	_
			A	7	В		(2	111	PM
NASA IOA	IOA [3 /3]	[]	[]	[] *
COMPARE	[N /N]	C]	[]	[]	[]
RECOMMEN	DATIONS:	(If	dif	fere	ent fr	om N	'ASA)			
	[/]	[]	[]	[] ([ADD/I] DELETE
* CIL RE		RATION	VALE:	(If	appl	icab	1	ADEQUATE ADEQUATE]
NO COUNT		IASA CO	TV F	MEA.	тои	CRI	TICA			

ASSESSME	NT	D	ATE:	3/	05/88				N	IASA	DATA	:		
ASSESSME NASA FME			D:	CO	MTRK-	8209				BASI	LIÑE NEW	[]	
SUBSYSTE MDAC ID:				82	09	D TRA	CK AMMA C	ONTF	ROL SW	ITCH	I			
LEAD ANA	LY	ST	:	W.	c. Lo	NG								
ASSESSME	NT	:												
	CR:	-	ICAL			REDU	NDANCY	SCF	REENS			CI		
·]					A	В	}	c	;		IT	-M	
NASA IOA]	[]	[]		[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	DA!	ΓI	ons:		(If d	iffer	ent fr	om N	IASA)					
	[/]	[]	[]	[]	(A)	[DD/1] DELE	ETE)
* CIL RE	TEI	YT:	ION	RAT	IONAL	E: (I	f appl	icab	À		JATE JATE	[]	
NO COUNT	ERI	PAI	RT N	ASA	CCTV	FMEA	. NOT	CRI	TICAL	ı •	: .			

ASSESSME ASSESSME NASA FME	NT	II			5/88 TRK-82	210			N	ASA DAT. BASELIN NE	E []
SUBSYSTE MDAC ID:				8210	-		CK MMA CO	ONTR	OL SW	ITCH		
LEAD ANA	LYS	ST	:	W.C	. LONG	3						
ASSESSME	NT	:										
	CR			ITY	I	REDUN	IDANCY	SCR	EENS		CII	
	,				2	A	В		c	:	111	ru.
NASA IOA	HDW/FUNC NASA [/] IOA [3 /3]				[]] []	[[]]	*
COMPARE	[N	/N]	[3	τ]	[]	[3
RECOMMEN	IDA'	ΓΙ	ons:	(:	If di	ffere	ent fro	om N	IASA)			
	ָן		/]	Ţ]	[]	[1 ([ADD/I] DELETE
* CIL RE		NT:	ION	RATI(ONALE	: (If	appl	icab	P	DEQUATE]
REMARKS:		PA]	RT N	IASA (CCTV 1	FMEA.	NOT	CRI	TICAL	٠.		

ASSESSME ASSESSME NASA FME	NT	I			05/88 MTRK-82	:11			N		DATA LINE NEW	[]	
SUBSYSTE MDAC ID: ITEM:				823	MM AND L1 C C BLA			GAMM	IA CON	TROL	. swi	тсн		
LEAD ANA	LY	ST	:	W.C	c. Long	;								
ASSESSME	NT	:												
	CR:		ICAL LIGH		F	EDUN	IDANCY	SCR	REENS			CI		
	•						В		C	:				
NASA IOA	HDW/FUNC NASA [/] IOA [3 /3]]	[]	[]		[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	DA!	ΓI	ons:	((If dif	fere	ent fr	om N	(ASA)					
	RECOMMENDATIONS: (1]	[]	[]	(A	[DD/1] DELE	TE)
* CIL RE	TE	NT:	ION	RATI	ONALE:	(If	appl	icab	Ā		ATE ATE]	
NO COUNT	ER	PA	RT N	ASA	CCTV F	MEA.	NOT	CRI	TICAL					

ASSESSME ASSESSME NASA FME	NT I		•	5/88 TRK-82	12			ľ	IASA DA BASELI N]
SUBSYSTE MDAC ID:	м:		821				GAMM	A COI	TROL S	WITCH	
LEAD ANA	LYST	:	W.C	. LONG							
ASSESSME	NT:										
		ICAL LIGH	ITY T	R	EDUN	IDANCY	SCR	EENS		CI IT	
	_	W/FU	_	A		В		(2		
NASA IOA		/3]	[]] []	[]	[] *]
COMPARE	[N	/N]	[]	[]	[]	[]
RECOMMEN	DATI	ons:	(If dif	fere	ent fr	om N	ASA)			
	[/]	. []	[]	[]	[(ADD/] DELETE
* CIL RE								INZ	ADEQUAT ADEQUAT]
NO COUNT	EKPA	KT N	ASA	CCTV F	MEA.	NO.T.	CKI	TICAL	. •		

ASSESSME ASSESSME NASA FME	NT I	D:	3/05/3 COMTR		13			N	IASA DI BASELI		[]	
SUBSYSTE MDAC ID: ITEM:			COMM 2 8213 TVC D				GAMMA	CON	TROL	riwa	гсн		
LEAD ANA	LYSI	C:	W.C. :	LONG									
ASSESSME	NT:												
		CICAL	ITY	RI	EDUND.	ANCY	SCRE	ENS			CIL		
		W/FU		A		В		C	!		TIE	.1	
NASA IOA	[[3	/ /3]	[]	[]	[]		[] *]	•
COMPARE	[N	1 /N]	[]	[]	[]		[]	
RECOMMEN	DATI	ons:	(If	dif	feren	t fr	om NAS	SA)					
	[/]	[]	[] .	[]		[ID/D		'E)
* CIL RE	TENI	ION I	RATION	ALE:	(If	appl	icable	A	.DEQUA'		[]	
REMARKS:	א מרטים א	אר שכם אני	3 C 3 C C C	מים דר	ATE X	MOM	CDIM	T (7 X T					

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-82	14				ASA DATA BASELINI NE]
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8214 TVC D WHI			SAMMA	CONT	ROL SW	ITCH	
LEAD ANALYST:	W.C. LONG	;						
ASSESSMENT:								
CRITICAL FLIGH		ANCY	SCRE		CII			
HDW/FU	-		В		С			•
NASA [/ IOA [3 /3] []	[]	[]	[[] *]
COMPARE [N /N] []	[]	[3	[]
RECOMMENDATIONS:	(If dif	feren	t fro	om NAS	5A)			
[/] []	[]	[] ([ADD/[] DELETE
* CIL RETENTION REMARKS:	RATIONALE:	(If	appl:	icable	AI	DEQUATE DEQUATE]
NO COUNTERPART N	ASA CCTV F	MEA.	NOT	CRIT	CAL.	•		

ASSESSME ASSESSME NASA FME	NT	I		3/05/ COMTR		15			ì	NASA B <u>a</u> se	DATA LINE NEW	[]
SUBSYSTE MDAC ID: ITEM:	M:			COMM 8215 TVC D				ONTR	OL SW	VITCH			
LEAD ANA	LY:	ST	:	W.C.	LONG	;							
ASSESSME	NT	:											
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM													
	1			NC	— — —								
NASA IOA	[3	/ /3]	[[]	[]	[[]		[]
COMPARE	[N	/N]	[]	[3	[]		[]
RECOMMEN	DA'	ΓI	ons:	(If	dif	fere	nt fr	om N	ASA)				
	[/]	[.]	[j	[.]	(Al	[' DD/D] ELETE)
* CIL RE	TEI	NT:	ION :	RATION	ALE:	(If	appl	icab	Į	ADEQU ADEQU		_]
	EMARKS: D COUNTERPART NASA CCTV FMEA. NOT CRITICAL.												

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	•	16				ASA DATA BASELINI NEV]]]
	COMM AND 8216 TVC D NOF			ONTRO	L SW	ІТСН		
LEAD ANALYST:	W.C. LONG	;						
ASSESSMENT:								
CRITICAI FLIGH	CIL							
HDW/FU	INC A	\	В		C			
NASA [/ IOA [3 /3] []	[]	[]	[] *]
COMPARE [N /N] []	[]	[]	[]
RECOMMENDATIONS:	(If dif	ferer	nt fr	om NA	SA)			
. 1] []	Ĺ]	[] (2	[ADD/D] ELETE
* CIL RETENTION REMARKS:		•	•-		A INA	DEQUATE DEQUATE]
NO COUNTERPART N	IASA CCTV I	PILA.	MOT	CKII	TCAL			

ASSESSME ASSESSME NASA FME	NT	I		3/05/ COMTR		17				BASEL		[]	
SUBSYSTE MDAC ID:				COMM 8217 TVC D				GAMMA	со	NTROL	swii	СН		
LEAD ANA	LY	ST	:	W.C.	LONG						-			
ASSESSME	NT	:												
	CR:			ITY	R	EDUND	ANCY	SCRE	ENS			CIL	ur.	
	1		LIGH' W/FU										*1	
NASA IOA	[3	/3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	C	1	[]	[]		[]	
RECOMMEN	DA'	ric	ons:	(If	dif	feren	t fr	om NAS	SA)					
	[/]	[.]	[1	[]	(AE	[D/D!] ELE	TE)
* CIL RE	TEI	T.	ION 1	RATION	ALE:	(If	appl	icable		ADEQUA ADEQUA		֝֟֝֟֝֟֝֟֝֟֝֟֝ ֓֓֞֓֓]	
REMARKS:	ER	PAI	RT N	ASA CC	TV F1	MEA.	пот	CRIT	ICA	L.				

ASSESSME ASSESSME NASA FME	NT ID:	· · ·							[]
SUBSYSTE MDAC ID:		COMM AND 8218 TVC D BL			GAMM2	A CON	ITROL	SWI'	гсн	
LEAD ANA	LYST:	W.C. LONG	3							
ASSESSME	NT:									
	CRITICAL FLIGH		REDUNI	DANCY	SCRI	EENS			CIL	
	HDW/FU	-	A	В		C	2			
NASA IOA	[3 /3] []]]	[]]] *]
COMPARE	[N /N] []	[]	(]		[]
RECOMMEN	DATIONS:	(If di	ffere	nt fr	om NZ	ASA)				
٠	[/] [] ′	[1.	[]	(A	[DD/D] ELETE
* CIL RE	TENTION	RATIONALE	: (If	appl	icab:	P	ADEQU ADEQU]
	ERPART N	ASA CCTV	FMEA.	ТОИ	CRI	ricai				

ASSESSME ASSESSME NASA FME	NT I			5/88 TRK-82:	19			1	NASA I BASEI		[]
SUBSYSTE MDAC ID: ITEM:	M:		821				E SI	RCH (GAMMA	CONT	TROL	SWITCH
LEAD ANA	LYST	:	W.C	. LONG								
ASSESSME	NT:											
		ICAL		RI	EDUN	DANCY	SCF	EENS			CIL	vr.
		LIGH W/FU		A		В	i	(2		1111	1
NASA IOA	[3	/3]]]	נ נ]	[]		[] *]
COMPARE	[N	/N]	[]	[]	[]		[]
RECOMMEN	DATI	ons:	(If dif	fere	nt fr	om N	IASA)				
	Ĺ	/,]	´ [.	1.	[)	(]	(AI	[[D\DC] ELETE)
* CIL RE	TENT	ION :	RATI	ONALE:	(If	appl	icab	1	ADEQU <i>I</i> ADEQU <i>I</i>		[]
REMARKS:	ERPA	RT N	ASA	CCTV FI	MEA.	NOT	CRI	TICA	L.			

COMTRK-8	3220						[]
8220			E STR	сн с	SAMMA	CON	TROL	SWITCH
W.C. LON	īG							
[TY	REDUNE	ANCY	SCRE	ENS			CIL	
4C	A	В		c	2		1111	•
] []	[]	[[]		[] .*
] []	[]	[]		[]
(If di	fferen	t fr	om NA	SA)				
] [.]	[]	[]	(A	[DD/D:] ELETE)
	·			INA	ADEQU.		[]
	COMM AND 8220 RMS WRIS W.C. LON TY TO THE TOTAL TO THE TOTAL TO THE TOTAL TOTA	8220 RMS WRIST TVC W.C. LONG TY REDUNE IC A] []] [] (If different	COMM AND TRACK 8220 RMS WRIST TVC WHIT: W.C. LONG TY REDUNDANCY IC A B [] [] [] [] [] (If different fr] [] [RATIONALE: (If appl	COMM AND TRACK 8220 RMS WRIST TVC WHITE STRO W.C. LONG TY REDUNDANCY SCREEN IC A B [COMM AND TRACK 8220 RMS WRIST TVC WHITE STRCH G W.C. LONG TY REDUNDANCY SCREENS IC A B G [COMM AND TRACK 8220 RMS WRIST TVC WHITE STRCH GAMMA W.C. LONG TY REDUNDANCY SCREENS C A B C [COMM AND TRACK 8220 RMS WRIST TVC WHITE STRCH GAMMA CONT W.C. LONG TY REDUNDANCY SCREENS NC A B C [COMM AND TRACK 8220 RMS WRIST TVC WHITE STRCH GAMMA CONTROL W.C. LONG TY REDUNDANCY SCREENS CIL ITE NC A B C [] [] [] [] [] [] [] [] [] (If different from NASA)] [] [] [] [] RATIONALE: (If applicable) ADEQUATE [INADEQUATE [

ASSESSME	SSESSMENT DATE: 3/05/88 SSESSMENT ID: COMTRK-8221 ASA FMEA #:									NASA DATA: BASELINE [] NEW []					
SUBSYSTE MDAC ID: ITEM:				8223			CK C NORM	GAM	MA CO	NTRO	L SW	ITC	н		
LEAD ANA	LY	ST	:	W.C.	. LONG										
ASSESSME	NT	:													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM															
	1		W/FU		A		В		C	}			LIT1		
NASA IOA	[3	/ /3]]]	[]	[]]]	*	
COMPARE	[N	/N	1	[]	[]	[]		[]		
RECOMMEN	'DA'	ΓI	ons:	(]	f dif	fere	ent fr	om N	IASA)						
	[/]	[]	[]	[]	(A)	[DD/1] DELE	TE)	
* CIL RE						·			AINA	DEQU	ATE ATE]		
NO COUNT	ER	PA:	RT N	ASA (O COUNTERPART NASA CCTV FMEA. NOT CRITICAL.										

ASSESSME ASSESSME NASA FME	NT ID:		3/05/8 COMTRI		22			N	ASA DAT BASELIN NI]
SUBSYSTE MDAC ID:	M:		COMM A 8222 RMS W				GAMM	A CC	NTROL S	SWITC	Н
LEAD ANA	LYST:		W.C.	LONG							
ASSESSME	NT:										
CRITICALITY REDUNDANCY SCREENS FLIGHT										CI	L EM
		/FUN	C A B C								
NASA IOA	[3 ,	/ /3]	[]	[]	[[]	[[] *]
COMPARE	[N ,	/N]	[]	[]]	[]
RECOMMEN	DATIO	NS:	(If	dif	fere	nt fr	om NA	SA)			
	τ,	/]	[]]]	[]	[(ADD/	DELETE
* CIL RE								INA	ADEQUATI	-]
NO COUNT	'ERPAR'	T NA	ASA CC	TV F	MEA.	NOT	CKIT	TCAL	.		

ASSESSME ASSESSME NASA FME	NT	I		3/0! COM!	5/88 IRK-82	23			NASA DATA: BASELINE [NEW []	
SUBSYSTE MDAC ID: ITEM:	M:			8223	M AND 3 WRIST			CK ST	RCH (GAMMA	CON	rol	swi	тсн
LEAD ANA	LY	ST	:	W.C	. LONG									
ASSESSME	NT	:												
	CR:		ICAL		R	EDUN	IDANCY	SCR	EENS			CIL		
	1		LIGH W/FU		A			TIE	71					
NASA IOA	[3	/3]	[]	[]	[]]] *	•
COMPARE	[N	/N]	[]]	[]		[]	
RECOMMEN	DA!	ri(ons:	(:	If dif	fere	nt fr	om N	ASA)					
	[/]	[]	[]	[]	(Al	[[D/DC] ELET	'E)
* CIL RE	TEI	VT:	ION 1	RATI(ONALE:	(If	appl	icab.	7	ADEQU <i>I</i>		[]	
NO COUNT	ER	PAI	RT N	ASA (CCTV F	MEA.	ron	CRI	TICAL	J •				

ASSESSMEI ASSESSMEI NASA FMEI	NT ID:	3/05/88 COMTRK-					A DATA SELINE NEW	[]			
SUBSYSTEM MDAC ID:	M:	COMM AN 8224 RMS WRI			C STR	CH GAM	MA CON	TROL	SWITCH			
LEAD ANA	LYST:	W.C. L	ONG									
ASSESSME	ASSESSMENT:											
•	CRITICAL		REDUN	DANCY	SCRE	ens		CIL				
	-	FLIGHT ITEM DW/FUNC A B C										
NASA IOA	[3 /3]	[]]]	[]		[] *			
COMPARE	[N /N]	[]	C]	[]		[]			
RECOMMEN	DATIONS	: (If o	differe	nt fro	om NA	SA)						
	[/]	[]	[]	[]	(A	[]] ELETE)			
* CIL RE						ADE INADE	QUATE QUATE	[]			
NO COUNT	NO COUNTERPART NASA CCTV FMEA. NOT CRITICAL.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:				NASA DATA: BASELINE [] NEW []								
	COMM AND 8225 RMS ELBO			ITE	STRCH	GAMMA	CONTR	OL	SWITCH			
LEAD ANALYST:	W.C. LO	NG										
ASSESSMENT:	ASSESSMENT:											
CRITICALITY REDUNDANCY SCREENS CIL												
	FLIGHT ITEM HDW/FUNC A B C											
NASA [/ IOA [3 /3] []	[]]]]]	*			
COMPARE [N /N] []	[]	[]	[]				
RECOMMENDATIONS:	(If d	ifferen	nt fr	om N	ASA)							
[/] []	[]	[]	[(ADD/D] ELE	TE)			
* CIL RETENTION I	RATIONALI	E: (If	appl	icab		EQUATI	2 [2 []				
	EMARKS: D COUNTERPART NASA CCTV FMEA. NOT CRITICAL.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-822	26	NASA DATA: BASELINE [NEW [
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 1 8226 RMS ELBOW		WHI	re st	RCH	GAMMA	CONTR	OL	SWITCH			
LEAD ANALYST:	W.C. LONG											
ASSESSMENT:												
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM												
	FLIGHT HDW/FUNC A B C											
NASA [/ IOA [3 /3] []	[]	*							
COMPARE [N /N] []	[]]	[]	[]				
RECOMMENDATIONS:	(If dif	ferent	fro	n NAS	A)							
[/] []	[]	[]	[(ADD/I	ELE	ETE)			
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE [] REMARKS:												
NO COUNTERPART N	ASA CCTV F	MEA.	MOJ. (CRITI	CAL.	,						

ASSESSME ASSESSME NASA FME	NT	I		•	5/88 TRK-82:	27			1		DATA LINE NEW	[]	
SUBSYSTE MDAC ID: ITEM:	M:			822	M AND 1 7 ELBOW			RM G	SAMMA	CONT	ROL	swi	тсн	
LEAD ANA	LY:	ST	:	W.C	. LONG									
ASSESSME	NT	:												
		ICAL LIGH		RI	NDANCY	SCF	REENS			CI IT	L EM			
	1	HD	W/FU	NC	A		В		(2				
NASA IOA	[3	/ /3]	[]]]	[[]		[[]	*
COMPARE	[N	/N]	[]	[]	[J		[]	
RECOMMEN	DA'	rI(ons:	(If diff	fere	ent fr	om N	IASA)					
	[/]	[.]	[]	[]	(A] DELE	ETE)
* CIL RE	TΕ	NT:	ION	RATI	ONALE:	(11	f appl	icab	7		IATE IATE]	
REMARKS:	ER	PA.	RT N	ASA	CCTV FI	ÆA.	. NOT	CRI	TICAL					

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-822	28	1	NASA DATA BASELINI NEV] 3]
00001	COMM AND 1 8228 RMS ELBOW		RM GAMMA	CONTROL	SWIT	СН
LEAD ANALYST:	W.C. LONG					
ASSESSMENT:						
CRITICAL FLIGH		EDUNDANCY	SCREENS		CIL ITE	
HDW/FU	NC A	В		С		
NASA [/ IOA [3 /3] [] [] []	[] *
COMPARE [N /N] [] [] []	נ]
RECOMMENDATIONS:	(If dif	ferent fr	om NASA)			
[/) [] [] [] (2	[ADD/D] ELETE
* CIL RETENTION REMARKS:	RATIONALE:	(If appl		ADEQUATE ADEQUATE]
NO COUNTERPART N	ASA CCTV FI	MEA. NOT	CRITICA	L.		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8	3229				ASA DAT BASELIN NE]	
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8229 RMS ELBO			ACK S	STRCH	GAMMA	CONTR	OL SWIT	CH
LEAD ANALYST:	W.C. LON	īG							
ASSESSMENT:									
CRITICAL		REDUNE	ANCY	SCRE	EENS		CIL		
FLIGHT HDW/FUN		A	В	i	С		116	M	
NASA [/ IOA [3 /3] []	[]	[]	[[] *]	
COMPARE [N /N] []	[]	[]	[]	
RECOMMENDATIONS:	(If di	fferen	t fr	om NA	ASA)				
\ ,]] []	[]	[] ([ADD/D] ELETE)	•
* CIL RETENTION E				icabl	Al INAl	DEQUATE DEQUATE	•]	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-82	30	NASA DATA: BASELINE [] NEW []								
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8230 RMS ELBOW		BLACK S	TRCH G	AMMA CO	ONTROL	SWITCH				
LEAD ANALYST:	W.C. LONG										
ASSESSMENT:											
CRITICAL FLIGH		CIL ITEM									
HDW/FU	-		В	С		IIEM					
NASA [/ IOA [3 /3] [] []	[]		[]	*				
COMPARE [N /N] [] []	[]		[]					
RECOMMENDATIONS:	(If dif	ferent f	rom NA	SA)							
[/] [] [] (ADD/DELETE)											
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE [] REMARKS:											
NO COUNTERPART N	ASA CCTV F	MEA. NO	T CRIT	ICAL.							

ASSESSME ASSESSME NASA FME	NT	II		3/05/ COMTR					NASA DAT BASELIN NE]	
SUBSYSTEM MDAC ID:	M:			COMM 8231 FLT D			HITE	STRCI	i G	amma con	TROL	SWITCH
LEAD ANA	LYS	T:	:	W.C.	LONG							
ASSESSME	NT:											
	CRI		[CAL: LIGH		ANCY	SCRE	ENS	3	CII			
	H	DV	/FU	NC	A	С						
NASA IOA	[3	/ /3]	[]	[]	[]	[[] *]
COMPARE	[N	/N]	[3	C]	[1	[]
RECOMMEN	DAT	'IC	ons:	(If	dif	ferent	t fro	om NAS	SA)			
	[/]	[]	[]	[] (-] DELETE)
* CIL RE	TEN	T	ION 1	RATION	ALE:	(If a	appli	icable	•	ADEQUATE ADEQUATE	-]
REMARKS:	ERP	ΆΙ	RT N	ASA CC	rv fi	MEA.	NOT	CRITI	CA	L.		

ASSESSME ASSESSME NASA FME	NT ID:	3/05/88 COMTRK-82	32		NASA DATA: BASELINE [] NEW []					
SUBSYSTE MDAC ID:		COMM AND 8232 FLT DECK		HITE	STRCH	GAMMA	CONTI	ROL	SWITCH	
LEAD ANA	LYST:	W.C. LONG								
ASSESSME	NT:									
	CRITICAL FLIGH		ANCY	SCREE	NS		CII			
	HDW/FU			В		С	112			
NASA IOA	[/ / 3 /3] []	[]	[]		[] *]	
COMPARE	[N /N] []	[]	[]		[]	
RECOMMEN	DATIONS:	(If dif	ferent	t fro	om NAS	A)				
	[/] []	[]	[]	(Al	[DD/I] DELETE)	
* CIL RE		RATIONALE:	(If a	appli	icable) ADEQ INADEQ		[]	

NO COUNTERPART NASA CCTV FMEA. NOT CRITICAL.

ASSESSME ASSESSME NASA FME	NT	II		3/05/ COMTR				ì	NASA DA BASELI N		•]		
SUBSYSTE MDAC ID: ITEM:				COMM 8233 FLT D			ORM (GAMMA	CON	NTROL S	WIT	СН		
LEAD ANA	LYS	ST:	:	W.C.	LONG									
ASSESSME	NT	:												
	CRI			ITY	ANCY	SCRE	ens			CIL ITEN	л			
	I		LIGH'		A		В		(,	lier	•	
NASA IOA	[3	/3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	[]	[]]		[]	
RECOMMEN	IDA:	ric	ONS:	(If	dif	feren	t fr	om NAS	SA)					
	[/]		1	[3	[]	(AD	[D/DI] ELE	ΓE)
* CIL RE		T	ION 1	RATION	ALE:	(If	appl	icable	2	ADEQUAT ADEQUAT		[]	
REMARKS:		PAI	RT N	ASA CC	TV FI	MEA.	NOT	CRIT	[CA]	ն.				

ASSESSMEN ASSESSMEN NASA FMEA	T	IE			05/88 MTRK-82	234					DATA LINE NEW	[]
SUBSYSTEM MDAC ID: ITEM:	4 :			823	MM AND 34 I DECK			GAMM	LA CON	TROI	. SWI	тсн	
LEAD ANA	LYS	T:	:	W.	c. Long	3							
ASSESSME	T:												
(CRI		CAL		F	IDANCY	SCR	REENS			CIL ITEM		
	H		LIGH V/FU	_	Z	A B			в с				EM
NASA IOA	[3	/3]	[]	[]	[]]] *]
COMPARE	[N	/N]	ι]	[]	[]		[]
RECOMMEN	IA D	'IC	ons:		(If di	ffere	ent fr	om N	IASA)				
	[/]	[]	[]	[]	(A	[DD/	DELETE
* CIL RE	ren	T	ION	RAT	IONALE	: (If	appl	icak	P		JATE JATE	[]
NO COUNT	ERF	PAI	RT N	ASA	CCTV I	FMEA.	. NOT	CRI	TICAI				

ASSESSME ASSESSME NASA FME	NТ	ID		•	/88 RK-82				NASA BASE	DATA LINE NEW	[-	
SUBSYSTE MDAC ID: ITEM:	M:			8235				STI	RCH G	AMMA	CONT	ROL	SWITCH
LEAD ANA	LYS	T:		W.C.	LONG	;							
ASSESSME	NT:												
•				ITY	SCI	REENS	:		CI				
			IGH' /FU	NC I	A		В	C				111	CM
NASA IOA	[3	/ /3]	[]	[]]]		[] *
COMPARE	[N	/N]	[]	[]	[]		[]
RECOMMEN	DAT	ΊΟ	NS:	(I	f dif	fere	ent fr	om 1	NASA)				
	[/	3	[]	[]	[]	(Al	[DD/1] DELETE)
* CIL RE	TEN	TI	ON 1	RATIO	NALE:	(If	f appl:	icak	-	ADEQU ADEQU		[]
REMARKS:	ממש	ם גו	err NT	אפא מ	CULT E	א יבו אוי	мот	CDI	rmtca	т.			

ASSESSMEN ASSESSMEN NASA FME	TN	II		•	5/88 TRK-823	36			ŀ	-	DATA ELINE NEW	[]
SUBSYSTEM MDAC ID:	M:			823				STR	CH G	AMMA	CONT	ROL	SWITCH
LEAD ANA	LYS	ST	:	W.C	. LONG								
ASSESSME	NT	:											
•		ICAL LIGH	EENS			CI							
	I		/FU		A		В		(3			
NASA IOA	[3	/ /3]] [] [[[]		[] *]
COMPARE	C	N	/N]	[]	[]	[]		[1
RECOMMEN	DA:	ΓI¢	ons:	(If dif	fer	ent fr	om N	IASA)				
	[/]	[]	[]	[]	(A	[DD/] DELETE)
* CIL RE									IN	ADEQ	UATE UATE]
NO COUNT	ER!	PA.	RT N	ASA	CCTV F	MEA	. NOT	CRI	TICA	L.			

ASSESSMEI ASSESSMEI NASA FME	TN	I		3/05/ COMTR					NASA BASE		[]	
SUBSYSTEM MDAC ID:	M:			COMM 8237 MID D				ST	RCH G	AMMA	CONT	ROL	SWITCH
LEAD ANA	LYS	T	:	W.C.	LONG								
ASSESSME	NT:	:											
(ICAL:	REENS			CI							
	F		LIGH' N/FU		A		В			С		11.	<u>en</u>
NASA IOA	[3	/ /3]	[]	[]]]		[] *]
COMPARE	. [N	/N]	[]	[)	[]		[]
RECOMMEN	ľAd	PI(ONS:	(If	dif	fere	nt fro	om 1	NASA)				
	[/	1	[]	[]	[]	(Al	[/ac] DELETE)
* CIL RET	ΓEN	IT:	ION 1	RATION	ALE:	(If	appl	ica1	•	ADEQU ADEQU]
NO COUNT	ERI	PA]	RT N	ASA CO	TV F	MEA.	NOT	CR	ITICA	L.			

ASSESSME ASSESSME NASA FME	NT ID:	3/05/8 COMTRK			NASA DATA: BASELINE [] NEW []						
SUBSYSTE MDAC ID:	M:	8238	COMM AND TRACK 3238 MID DECK TVC WHITE STRC					CONT	ROL	SWITCH	
LEAD ANA	LEAD ANALYST: W.C. LONG										
ASSESSME	NT:										
CRITICALITY REDUNDANCY FLIGHT						Y SCREENS				CIL ITEM	
	HDW/FU		A		В	c	:		11.	ion.	
NASA IOA	[/ / 3]	[] []] []		[] *	
COMPARE	[N /N]	[) []	[]		[]	
RECOMMEN	DATIONS:	(If	diff	erent	from	NASA)					
	[/]	[] []	[]	(A)	[DD/] DELETE)	
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE [] REMARKS:]			
NO COUNT	NO COUNTERPART NASA CCTV FMEA. NOT CRITICAL.										

ASSESSME ASSESSME NASA FME	NT	I			/05/88 OMTRK-8239						DATA LINE NEW	[
SUBSYSTE MDAC ID: ITEM:	M:			8239	ID DECK TVC NORM GAMMA CONTROL									
LEAD ANA	LY	ST	:	W.C.	LONG									
ASSESSME	NT	:												
	CR:		ICAL LIGH		RI	EDUN	IDANCY	SCR	REENS			CII		
	1			NC	A		В	}	(3		111	CM	
NASA IOA	[3	/3]]]	[]	[]] []	*
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	DA:	ri	ons:	(1	f dif	fere	ent fr	om N	IASA)					
	[/]	[]	[]	[]	(A)] DELE	TE)
* CIL RE	TEI	NT:	ION	RATIO	NALE:	(If	appl	icab	•		JATE JATE	[]	
REMARKS:	ERI	PA]	RT N	ASA (CTV FI	MEA.	NOT	CRI	TICA					

ASSESSMENT ASSESSMENT NASA FMEA	ID:		/05/88 COMTRK-8240				N	IASA D BASEL	INE	: [[]
SUBSYSTEM: MDAC ID: ITEM:		8240	MID DECK TVC NORM GA					ITROL	swi	гсн	
LEAD ANALY	ST:	W.C.	LONG								
ASSESSMENT	:										
CR		YTI	R	EDUNI	DANCY	SCR	EENS			CIL	
	FLIGH HDW/FU		A		В		C	:		***	£1
NASA [] AOI	3 /3]]]	[]	[]		[] *]
COMPARE [n /n	1	[]	[]	[]		[]
RECOMMENDA	TIONS:	(If	dif	fere	nt fr	om N	ASA)				
[/]	[]	[]	[]	(Al	[DD/D] ELETE
* CIL RETE	NTION	RATION	ALE:	(If	appl	icab	2	ADEQUA ADEQUA		[]
REMARKS: NO COUNTER	PART N	ASA CC	TV F	MEA.	NOT	CRI	TICA	L.			

ASSESSME ASSESSME NASA FME	NT	II			/05/88 OMTRK-8241				NASA DATA: BASELINE [] NEW []				
SUBSYSTE MDAC ID: ITEM:	М:			824	IID DECK TVC BLACK STRCH GAMMA						CONT	ROL	SWITCH
LEAD ANA	LYS	ST:	:	W.C	.C. LONG								
ASSESSME	NT:	:											
CRITICALITY REDUNDANCY FLIGHT					IDANCY	SCI	REENS	;		CI			
	F			NC	A		В			С		11.	EM
NASA IOA	[3	/3]	[]	[]	[]		[] *
COMPARE		N	/N]	[]	[]	[]		[]
RECOMMEN	DAI	ľIC	ons:	(If diff	fere	ent fr	om 1	NASA)				
	[/]	(]	[]	[(A)] DELETE)
* CIL RE	TEN -	T]	ION	RATI(ONALE:	(If	f appl	icak		ADEQU ADEQU]
REMARKS:	ם מים דים בים	זגכ	איים כ	353	CCTTT FI	/FZ	иот	CRI	רייד רא	т.			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		/05/88 OMTRK-8242				NASA DATA: BASELINE [] NEW []				
	8242	MID DECK TVC BLACK STRCH GAMMA						ROL	SWITCH	
LEAD ANALYST: W.C. LONG										
ASSESSMENT:										
CRITICAL	CY SCREENS CIL									
FLIGH HDW/FU		A	В		C	!		ITI	SM	
NASA [/ IOA [3 /3] []	[]]]		[] *]	
COMPARE [N /N] []	[]	[]		[]	
RECOMMENDATIONS:	(If dif	feren	t fr	om NA	SA)					
[/] []	[]	[]	(Al	[]\dc] DELETE)	
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE [] REMARKS: NO COUNTERPART NASA CCTV FMEA. NOT CRITICAL.										

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8			BASELINE NEW	[]			
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8243 TVC A MO		LENS ASS	Y FOCUS CON	TROL SWITCH			
LEAD ANALYST:	W.C. LON	NG						
ASSESSMENT:	ASSESSMENT:							
CRITICAL: FLIGH		REDUNDANG	CY SCREENS	s	CIL ITEM			
HDW/FU		A	В	С	1121			
NASA [/ IOA [2 /1R] [p] [p] [p]	[] * [x]			
COMPARE [N /N] [N] [и] [и ј	[N]			
RECOMMENDATIONS:	(If d	ifferent 1	from NASA)				
[2 /1R] [P] [P] [P] (AI	[A] DD/DELETE)			
* CIL RETENTION	RATIONALI	E: (If app		ADEQUATE NADEQUATE	[]			
REMARKS: NO COUNTERPART NO MISSION. LOSS OF RESULT IN LOSS OF	F ALL CA	PABILITY 1	ro perfori	M THIS FUNC	CTION COULD			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8	244		NASA DATA: BASELINE [] NEW []				
SUBSYSTEM: MDAC ID: ITEM:	8244	COMM AND TRACK 1244 TVC A MONOCHROME LENS.ASSY FOCUS CO						
LEAD ANALYST:	W.C. LON	r G						
ASSESSMENT:								
CRITICALITY REDUNDANCY SCREENS FLIGHT					CIL ITEM			
HDW/FU		A	В	С				
NASA [/ IOA [2 /1R] [P] [P] [p]	[] * [X]			
COMPARE [N /N] [и] [и] [и ј	[N]			
RECOMMENDATIONS:	(If di	fferent :	from NASA)					
[2 /1R] [P] [P] [P] (Al	[A.] DD/DELETE)			
* CIL RETENTION	RATIONALE	: (If ap	plicable)		_			
			IN	ADEQUATE IADEQUATE				
REMARKS: NO COUNTERPART NASA CCTV FMEA. FAILURE COULD RESULT IN LOSS OF MISSION. LOSS OF ALL CAPABILITY TO PERFORM THIS FUNCTION COULD RESULT IN LOSS OF CCTV AND SUBSEQUENT LOSS OF VEHICLE AND CREW.								

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8			BASELINE NEW				
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8245 TVC B MC		FOCUS COM	TROL SWITCH				
LEAD ANALYST:	W.C. LON	iĠ			in the state of th			
ASSESSMENT:	ASSESSMENT:							
CRITICAL: FLIGH	CIL ITEM							
HDW/FU	_	A	В	С	1164			
NASA [/ IOA [2 /1R] [P] [P] [P]	[x] *			
COMPARE [N /N] [и] [и] [и ј	[N]			
RECOMMENDATIONS:	(If di	fferent i	from NASA)					
[2 /1R] [P] [P] ([P] .	[A] DD/DELETE)			
* CIL RETENTION	RATIONALE	E: (If app	·	ADEQUATE ADEQUATE				
INADEQUATE [] REMARKS: NO COUNTERPART NASA CCTV FMEA. FAILURE COULD RESULT IN LOSS OF MISSION. LOSS OF ALL CAPABILITY TO PERFORM THIS FUNCTION COULD RESULT IN LOSS OF CCTV AND SUBSEQUENT LOSS OF VEHICLE AND CREW.								

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-			NASA DATA: BASELINE [] NEW []			
SUBSYSTEM: MDAC ID: ITEM:	COMM AN 8246 TVC B M		y Focus co	NTROL SWITCH			
LEAD ANALYST:	W.C. LO	.C. LONG					
ASSESSMENT:							
CRITICALITY REDUNDANCY SCREENS FLIGHT					CIL ITEM		
HDW/FU		A	В	С	112		
NASA [/ IOA [2 /1F] [p]	[] [[P] [] P]	[x] *		
COMPARE [N /N] [и]	[и]	и]	[N]		
RECOMMENDATIONS:	(If d	ifferent	from NASA	7)			
[2 /1F	. [P]	[P] [[P] (A	[A] .DD/DELETE)		
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []							
REMARKS: NO COUNTERPART NASA CCTV FMEA. FAILURE COULD RESULT IN LOSS OF MISSION. LOSS OF ALL CAPABILITY TO PERFORM THIS FUNCTION COULD RESULT IN LOSS OF CCTV AND SUBSEQUENT LOSS OF VEHICLE AND CREW.							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		247	NASA DATA: BASELINE [] NEW []					
MDAC ID:	COMM AND 8247 TVC C MON	•	LENS ASS	Y FOCUS COM	NTROL SWITCH			
LEAD ANALYST:	W.C. LONG	3						
ASSESSMENT:								
CRITICAL: FLIGHT	ITY F	REDUNDANC	Y SCREEN	3	CIL ITEM			
HDW/FUI	NC P	A	В	С				
NASA [/ IOA [2 /1R] [[] [p] [P]	[x] *			
COMPARE [N /N] [N	1] [и] [n j	[N]			
RECOMMENDATIONS:	(If dif	fferent f	rom NASA)				
[2 /1R] []	?][P] [P] (AI	[A] DD/DELETE)			
* CIL RETENTION I	RATIONALE:	(If app	·	ADEQUATE NADEQUATE				
REMARKS: NO COUNTERPART NASA CCTV FMEA. FAILURE COULD RESULT IN LOSS OF MISSION. LOSS OF ALL CAPABILITY TO PERFORM THIS FUNCTION COULD RESULT IN LOSS OF CCTV AND SUBSEQUENT LOSS OF VEHICLE AND CREW.								

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-			NASA DATA: BASELINE [] NEW []				
	COMM AND 8248 TVC C M		FOCUS CO	NTROL SWITCH				
LEAD ANALYST:	W.C. LO	NG						
ASSESSMENT:								
CRITICAL FLIGH	CY SCREENS	CY SCREENS						
HDW/FU		A	В	C	ITEM			
NASA [/ IOA [2 /1R] [P] [] [P] [] P]	[x] *			
COMPARE [N /N] [и ј [и ј [N]	[N]			
RECOMMENDATIONS:	(If d	ifferent	from NASA))				
[2 / ÌR] -[P] [P] [P] (A	[A] DD/DELETE)			
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []								
REMARKS: NO COUNTERPART NASA CCTV FMEA. FAILURE COULD RESULT IN LOSS OF MISSION. LOSS OF ALL CAPABILITY TO PERFORM THIS FUNCTION COULD RESULT IN LOSS OF CCTV AND SUBSEQUENT LOSS OF VEHICLE AND CREW.								

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-8			BASELINE NEW	
	COMM AND 8249 TVC D MC		LENS ASS	SY FOCUS CO	NTROL SWITCH
LEAD ANALYST:	W.C. LON	īG			
ASSESSMENT:					
CRITICAL: FLIGHT HDW/FUI	r	REDUNDANO	cy screen B	15	CIL ITEM
NASA [/ IOA [2 /1R] [P] [p]	[] [P]	[x] *
COMPARE [N /N	J [и] [N]	[и]	[N]
RECOMMENDATIONS:	(If di	fferent	from NASA	A)	
` [2 /1R] [P] [P]		[A] DD/DELETE)
* CIL RETENTION I	RATIONALE	: (If ap	•	ADEQUATE INADEQUATE	
REMARKS: NO COUNTERPART NAMESION. LOSS OF RESULT IN LOSS OF	F ALL CAP	ABILITY '	AILURE CO	OULD RESULT	IN LOSS OF

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8			NASA DATA BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8250 TVC D MC		LENS ASS	Focus con	NTROL SWITCH
LEAD ANALYST:	W.C. LONG				
ASSESSMENT:					
CRITICAL FLIGH HDW/FU	T	REDUNDANO A	SY SCREENS	c C	CIL ITEM
NASA [/ IOA [2 /1R] [P] [P] [P]	[] *
COMPARE [N /N] [и] [N] [и]	[N]
RECOMMENDATIONS:	(If di	ifferent f	from NASA))	
[2 /1R] [P] [P] [P] (Al	[A] DD/DELETE)
* CIL RETENTION	RATIONALE	E: (If app	_	ADEQUATE NADEQUATE	[]
REMARKS: NO COUNTERPART N MISSION. LOSS O	F ALL CAR	PABILITY T	O PERFORM	M THIS FUNC	CTION COULD

ASSESSMENT DATI ASSESSMENT ID: NASA FMEA #:	: 3/05/88 COMTRK-			NASA DATI BASELINI NEV		
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AN 8251 RMS WRI		NOCHROM	E LENS ASSY	FOCUS CONTROL	
LEAD ANALYST:	W.C. LC	ONG				
ASSESSMENT:						
CRITICA FLIC		REDUNDAN	CY SCRE	ens	CIL ITEM	
HDW/I		A	В	С		
NASA [/ IOA [3 /] [R] [] [P] [P]	[] [P]	[] *	
COMPARE [N /] [[и]	N]	[N]	[]	
RECOMMENDATIONS	: (If d	lifferent	from NA	SA)		
[3 /:	R] [[P] [Pj		[] ADD/DELETE)	
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []						
REMARKS: NO COUNTERPART THIS FUNCTION					ITY TO PERFORM	

ASSESSME ASSESSME NASA FME		3/05/88 COMTRK-					SA DATA: ASELINE [NEW []
SUBSYSTE MDAC ID: ITEM: SWITCH		COMM AN 8252 RMS WRI			NOCHR	OME LENS	s assy fo	cus control
LEAD ANA	LYST:	W.C. LO	NG					
ASSESSME	NT:							
CRITICALITY REDUNDANCY SCREIFLIGHT				REENS		CIL TEM		
	HDW/FU		A		В	С	-	. 4. 4.4. *
NASA IOA	[/ [3 /2R] [P]	[P]	[[P] [] *
COMPARE	[N /N] [N]	. [и]	[N]) (]
RECOMMEN	DATIONS:	(If d	iffe	rent :	from	NASA)		
	[3 /2R	.] [P]	[P]	[P] D/DELETE)
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []								
	ERPART N							TO PERFORM

ASSESSMENT DATI ASSESSMENT ID: NASA FMEA #:		8253		NASA DATI BASELINI NET	
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AN 8253 RMS ELB		ONOCHROM	E LENS ASSY	FOCUS CONTROL
LEAD ANALYST:	W.C. LO	NG			
ASSESSMENT:					
CRITICA FLIC	LITY	REDUNDA	NCY SCRE	ENS	CIL ITEM
HDW/I		A	В	С	112.
NASA [/ IOA [3 /	n] [p]	[] [P]	[] [P]	[] *
COMPARE [N /] [и]	[N]	[и]	[]
RECOMMENDATIONS	: (If d	ifferent	from NA	SA)	
[3 /	R] [P]	[P]	[P]	[] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	applicabl	e) ADEQUATE INADEQUATE	
REMARKS: NO COUNTERPART THIS FUNCTION					ITY TO PERFORM

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8			NASA DAT BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM ANI 8254 RMS ELBO			IE LENS ASSY	FOCUS CONTROL
LEAD ANALYST:	W.C. LO	NG			
ASSESSMENT:					
CRITICAL FLIGH		REDUNI	DANCY SCRE	EENS	CIL ITEM
HDW/FU	NC	A	. В	С	
NASA [/ IOA [3 /2R] [P]	[] [P]	[] [P]	[] *
COMPARE [N /N] [и ј	[N]	[N]	[]
RECOMMENDATIONS:	(If d	ifferer	nt from NA	ASA)	
[3 /2R	.] [P]	[P]	[P]	[] (ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If	applicabl	Le) ADEQUATE INADEQUATE	
REMARKS: NO COUNTERPART N THIS FUNCTION CO	ASA CCTV	FMEA.	LOSS OF MI	ALL CAPABII	LITY TO PERFORM

ASSESSME ASSESSME NASA FME	NT ID:	3/05/ COMTR		55			NASA DATA: BASELINE [] NEW []]
SUBSYSTE MDAC ID: ITEM: SWITCH	M:	COMM 8255 FLT D				HROM	E LEI	NS ASS	SY F	ocus	CONTROL
LEAD ANA	LYST:	W.C.	LONG								
ASSESSME	NT:										
CRITICALITY REDUNDANCY FLIGHT					SCR	EENS			CIL		
	HDW/FU		· А		E	3	(
NASA IOA	[/ / 3]	[]	[].	[]].] *
COMPARE	[N /N]	[]	[]	[J		[]
RECOMMEN	DATIONS:	(If	dif	fere	nt fr	om N	ASA)				
	[/]	[]	[]	[]	(A)	[DD/D] ELETE)
* CIL RE	TENTION	RATION	ALE:	(If	appl	icab	1	ADEQUA ADEQUA	TE	[]
NO COUNT	ERPART N	ASA CC	TV F	MEA.	TOM	CRI	TIČAI	, .			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8256	NASA DATA: BASELINE [NEW []
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AND TRACK 8256 FLT DECK TVC MONOCHRO	OME LENS ASSY FOC	US CONTROL
LEAD ANALYST:	W.C. LONG		
ASSESSMENT:			
CRITICAL FLIGH	T	I'	IL TEM
HDW/FU	NC A B	C	
NASA [/ IOA [3 /3] [] []	[]] *
COMPARE [N /N	1 [] []	[] []
RECOMMENDATIONS:	(If different from	NASA)	
. [/] [] []	[] [(ADD)] /DELETE)
* CIL RETENTION :	RATIONALE: (If applica	able) ADEQUATE [INADEQUATE []

NO COUNTERPART NASA CCTV FMEA. NOT CRITICAL.

ASSESSME ASSESSME NASA FME	NT ID:		3/05/88 COMTRK-8257				NASA DATA: BASELINE [NEW [
SUBSYSTE MDAC ID: ITEM: SWITCH		8257			OCHROM	IE LEN	IS ASSY	Focus	CONTROL	
LEAD ANA	LYST:	W.C.	LONG							
ASSESSME	NT:									
		CICALITY REDUNDANCY SCREEN CLIGHT W/FUNC A B					ENS CII			
NASA IOA	[/]	[] []	[]]] *	
COMPARE	[N /N]	[] []	[]	[]	
RECOMMEN	DATIONS	: (I	f diff	erent	from N	IASA)				
	[/]	[] []	[] ([ADD/D] ELETE)	
* CIL RE	TENTION	RATIO	NALE:	(If ap	plicab	À	DEQUATE	-]	
NO COUNT	ERPART	NASA C	CTV FM	EA. N	OT CRI	TICAL	1.			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-825	58		NASA DA' BASELI N]		
SUBSYSTEM: MDAC ID: ITEM: SWITCH	8258	COMM AND TRACK 3258 MID DECK TVC MONOCHROME LENS ASSY					
LEAD ANALYST:	W.C. LONG						
ASSESSMENT:							
CRITICAL FLIGH HDW/FU	T	edundancy B		c C	CIL		
NASA [/ IOA [3 /3] [] []	[]	[] *	
COMPARE [N /N] [] []	[]	[]	
RECOMMENDATIONS:	(If dif	ferent fr	om NAS	SA)			
[/] [] []	[]	[(ADD/D] ELETE)	
* CIL RETENTION REMARKS:	RATIONALE:	(If appl	icable	e) ADEQUAT INADEQUAT	-]	
NO COUNTERPART N	ASA CCTV FI	MEA. NOT	CRITI	CAL.			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		59	nasa i Basei	DATA: LINE [] NEW []
	8259		ens assy zoom	CONTROL SWITCH
LEAD ANALYST:	W.C. LONG			. 194
ASSESSMENT:				
CRITICAL: FLIGHT	CTY R	EDUNDANCY	SCREENS	CIL ITEM
HDW/FUI		В	С	LIBN
NASA [/ IOA [2 /1R] [] [P] [] [P] []] [P]	[x]
COMPARE [N /N] [N] [N] [и]	[N]
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)	
[2 /1R] [P] [P] [P]	[A] (ADD/DELETE)
* CIL RETENTION H	RATIONALE:	(If appli		ATE []
REMARKS: NO COUNTERPART NA MISSION. LOSS OF RESULT IN LOSS OF	ALL CAPA	BILITY TO		FUNCTION COULD

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8	3260		NASA DATA: BASELINE NEW	[]	
SUBSYSTEM: MDAC ID: ITEM:	8260	COMM AND TRACK 3260 TVC A MONOCHROME LENS ASSY ZOOM CONT				
LEAD ANALYST:	W.C. LON	.C. LONG				
ASSESSMENT:						
CRITICAL FLIGH		REDUNDA	NCY SCREEN	1S	CIL ITEM	
HDW/FU		A	В	С		
NASA [/ IOA [2 /1R] [p]	[] [P]	[] [P]	[] * [X]	
COMPARE [N /N] [N]	[и]	[и]	[и]	
RECOMMENDATIONS:	(If d	ifferent	from NASA	A)		
[2 /1R] [P]	[P]	[P] (Al	[A] DD/DELETE)	
* CIL RETENTION	RATIONAL	E: (If a) ADEQUATE INADEQUATE	[]	
REMARKS: NO COUNTERPART N MISSION. LOSS O RESULT IN LOSS O	F ALL CA	PABILITY	FAILURE CO	OULD RESULT	CTION COULD	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8	3261		NASA DATA: BASELINE NEW	[]	
SUBSYSTEM: MDAC ID: ITEM:	8261				ROL SWITCH	
LEAD ANALYST:	AD ANALYST: W.C. LONG					
ASSESSMENT:						
CRITICALITY REDUNDANCY SCREENS				5	CIL	
FLIGH HDW/FU	4C	A	В	С	ITEM	
NASA [/ IOA [2 /1R] [P] [] [P] [p]	[] * [X]	
COMPARE [N /N] [и] [и] [N]	[и]	
RECOMMENDATIONS:	(If di	fferent	from NASA)			
[2 /1R] [P] [P] [[A] D/DELETE)	
* CIL RETENTION I	RATIONALE	: (If ap	plicable)	<u>.</u>		
			IN	ADEQUATE IADEQUATE	[]	
REMARKS: NO COUNTERPART NA MISSION. LOSS OF RESULT IN LOSS OF	F ALL CAP	ABILITY	AILURE COU	LD RESULT THIS FUNC	IN LOSS OF TION COULD	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-		NASA DATA BASELINE NEW	[]							
SUBSYSTEM: MDAC ID: ITEM:	COMM AN 8262 TVC B M		E LENS ASS	Y ZOOM CON	TROL SWITCH						
LEAD ANALYST:	w.c. Lo	NG									
ASSESSMENT:											
CRITICAL FLIGH	CIL ITEM										
HDW/FU	NC	A	В	С							
NASA [/ IOA [2 /1R] [] P]	[] [[P] [p]	[x] *						
COMPARE [N /N] [N]	[и] [N]	[N]						
RECOMMENDATIONS:	(If d	ifferent	from NASA	')							
[2 /1R	1 . [P]	[P] [P] (A	[A] DD/DELETE)						
* CIL RETENTION	RATIONAL	E: (If a	pplicable)								
	-		1	ADEQUATE NADEQUATE	[]						
REMARKS: NO COUNTERPART N MISSION. LOSS O RESULT IN LOSS O	F ALL CA	PABILITY	FAILURE CO TO PERFOR	OULD RESULT	IN LOSS OF CTION COULD						

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8263		NASA DATA: BASELINE NEW	[]===
	COMM AND TRACK 8263 TVC C MONOCHRO			ROL SWITCH
LEAD ANALYST:	W.C. LONG	ii		
ASSESSMENT:				
CRITICALI FLIGHT	CIL ITEM			
HDW/FUN		В	c	1100
NASA [/ IOA [2 /1R] [p]	[p] [:	P]	[x]
COMPARE [N /N] [N]	[n] [1	N]	[N]
RECOMMENDATIONS:	(If differen	t from NASA)		
[2 /1R	j [P]	[P] [:		[A] D/DELETE)
* CIL RETENTION F	ATIONALE: (If		ADEQUATE	r 1
DEM DVG		IN	ADEQUATE	[]
REMARKS: NO COUNTERPART NA MISSION. LOSS OF RESULT IN LOSS OF	ALL CAPABILIT	Y TO PERFORM	THIS FUNC	TION COULD

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8	3264	1	VASA DATA: BASELINE NEW	[]							
SUBSYSTEM: MDAC ID: ITEM:	8264	VC C MONOCHROME LENS ASSY ZOOM CON										
LEAD ANALYST: W.C. LONG												
ASSESSMENT:												
CRITICAL: FLIGH HDW/FU	CY SCREENS	3	CIL ITEM									
•			, ,	•	r 1 +							
NASA [/ IOA [2 /1R] [P] [] [P] [1	P]	[] * [X]							
COMPARE [N /N] [N] [и] [и	1]	[N]							
RECOMMENDATIONS:	(If di	ifferent f	rom NASA)									
[2 /1R] [P] [P] [1	ا (AI . (AI	[A] DD/DELETE)							
* CIL RETENTION	RATIONALI	E: (If app	olicable)									
		,		ADEQUATE ADEQUATE								
REMARKS: NO COUNTERPART NASA CCTV FMEA. FAILURE COULD RESULT IN LOSS OF MISSION. LOSS OF ALL CAPABILITY TO PERFORM THIS FUNCTION COULD RESULT IN LOSS OF CCTV AND SUBSEQUENT LOSS OF VEHICLE AND CREW.												

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-8	3265		BASELINE NEW								
	8265	COMM AND TRACK 3265 TVC D MONOCHROME LENS ASSY ZOOM CONT										
LEAD ANALYST:	W.C. LON	1G										
ASSESSMENT:												
FLIGH'	Г		CY SCREENS		CIL ITEM							
HDW/FU	NC	A	В									
NASA [/ IOA [2 /1R] [p] [p] [1	?]	[x] *							
COMPARE [N /N] [и] [и] [1	4]	[и]							
RECOMMENDATIONS:	(If d	ifferent :	from NASA)									
. [2 /1R	j [P] [P'] [1	?] (AD	[A] DD/DELETE)							
* CIL RETENTION	RATIONALI	E: (If ap)	7	ADEQUATE ADEQUATE								
REMARKS: NO COUNTERPART NO MISSION. LOSS OF RESULT IN LOSS OF RESU	F ALL CA	PABILITY ?	AILURE COUI	LD RESULT	IN LOSS OF TION COULD							

SUBSYSTEM: COMM AND TRACK											
MDAC ID: 8266 ITEM: TVC D MONOCHROME LENS ASSY ZOOM CONTROL SWITCH											
LEAD ANALYST: W.C. LONG											
ASSESSMENT:											
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C											
11211/10110											
NASA [/] [] [] [] * IOA [2 /1R] [P] [P] [X]											
COMPARE [N/N] [N] [N] [N]											
RECOMMENDATIONS: (If different from NASA)											
[2/1R] [P] [P] [A] (ADD/DELETE)											
* CIL RETENTION RATIONALE: (If applicable)											
ADEQUATE [] INADEQUATE []											
REMARKS:											
NO COUNTERPART NASA CCTV FMEA. FAILURE COULD RESULT IN LOSS OF MISSION. LOSS OF ALL CAPABILITY TO PERFORM THIS FUNCTION COULD RESULT IN LOSS OF CCTV AND SUBSEQUENT LOSS OF VEHICLE AND CREW.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8267		NASA DATA: BASELINE [] NEW []									
SUBSYSTEM: MDAC ID: ITEM: SWITCH	8267	RMS WRIST TVC MONOCHROME LENS ASSY										
LEAD ANALYST:	W.C. LONG	.C. LONG										
ASSESSMENT:												
CRITICALI FLIGHT	- - -	DANCY SCREENS	REENS CIL ITEM									
HDW/FU		В		11111								
NASA [/ IOA [3 /2R] [p]	[] [I]	[] * []								
COMPARE [N /N] [N]	[и] [и]	1]	[]								
RECOMMENDATIONS:	(If differe	nt from NASA)										
[3 /2R] [P]	[P] [I		[D/DELETE)								
* CIL RETENTION F	RATIONALE: (If											
		INA		[]								
NO COUNTERPART NA	INADEQUATE [] REMARKS: NO COUNTERPART NASA CCTV FMEA. LOSS OF ALL CAPABILITY TO PERFORM THIS FUNCTION COULD RESULT IN LOSS OF MISSION.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8268	NASA DATA: BASELINE NEW	[]								
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AND TRACK 8268 RMS WRIST TVC MONOCHROME	3268 RMS WRIST TVC MONOCHROME LENS ASSY									
LEAD ANALYST: W.C. LONG											
ASSESSMENT:											
CRITICAI FLIGH	CIL ITEM										
HDW/FU		C.									
NASA [/ IOA [3 /2F] [] [] [k] [P] [P] [P]	[] *								
COMPARE [N /N] [и] [и] [N]	[]								
RECOMMENDATIONS:	(If different from NASA	7)									
[3 /2F	R] [P] [P] [[P] (AI	[DD/DELETE)								
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []											
REMARKS: NO COUNTERPART N THIS FUNCTION CO	NASA CCTV FMEA. LOSS OF AIDULD RESULT IN LOSS OF MISS		TY TO PERFORM								

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8269											
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AND TRACK 8269 RMS ELBOW TVC M	B269 RMS ELBOW TVC MONOCHROME LENS ASSY Z										
LEAD ANALYST: W.C. LONG												
ASSESSMENT:												
CRITICAL FLIGH	CIL ITEM											
HDW/FU		В с с	LIBN									
NASA [/ IOA [3 /2R] [p]	[] [] [P] [P]	[] * [] 2									
COMPARE [N /N] [N]	[и] [и]	[]									
RECOMMENDATIONS:	(If different	from NASA)										
· [3 /2R] [P]	[P] [P] (AE	[] DD/DELETE)									
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []												
NO COUNTERPART N. THIS FUNCTION CO		LOSS OF ALL CAPABILIT	Y TO PERFORM									

ASSESSMENT DATE: 3/05/88 ASSESSMENT ID: COMTRK-8270 NASA FMEA #:									NASA DATA: BASELINE [] NEW []								
SUBSYSTE MDAC ID: ITEM: SWITCH	M:			8270	COMM AND TRACK 3270 RMS ELBOW TVC MONOCHROME LENS ASSY									SY :	ZOOM	CONTROL	,
LEAD ANALYST: W.C. LONG																	
ASSESSMENT:																	
CRITICALITY REDUNDANCY SCREENS FLIGHT										CIL ITEM							
	F		/FUI			A			В			С				· -	
NASA IOA	[3	/ /2R]	[P]	[[P]	[P]		[] *]	
COMPARE	[N	/Ŋ]	[N]	[N	1	[N]		[]	
RECOMMEN	DA:	ΓI	ons:	(If	đ	if	fere	nt	fro	om Ni	ASA)					
	[3	/2R]	[P]	[P]	[.	P]	(A	[DD/D] ELETE)	
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []																	
REMARKS: NO COUNT THIS FUN														[LI	TY T	O PERFOR	M

ASSESSMENT DATE: 3/05/88 ASSESSMENT ID: COMTRK-8271 NASA FMEA #:									NASA DATA: BASELINE [] NEW []								
SUBSYSTE MDAC ID: ITEM: SWITCH				827	71	D TRAC		CHROM	E LE	NS ASS	SY ZOON	1 CO	NTROI				
LEAD ANA	LYS	ST	:	W.C	c. Loi	NG											
ASSESSME	NT:	:															
CRITICALITY REDUNDANCE FLIGHT											CIL ITEM						
	I	IDI	/FU	NC		A	F	3	(2							
NASA IOA	[3	/ /3]	[]]]	[[]	[]	*,				
COMPARE	[N	/N]	[]	[]	[]	Ţ]					
RECOMMEN	DAT	ric	ONS:	((If d	iffere	ent fr	om N	ASA)								
	(/]	C]	[.]	[]	[(ADD/	DEL	ETE)				
* CIL RE	TEN	T.	ON I	RATI	ONALI	E: (If	appl	icab.	7	ADEQUA]					
REMARKS:	ERI	PAI	RT N	ASA	CCTV	FMEA.	ron	CRI	TICA			1, . 					

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	NASA DATA: BASELINE [] NEW []										
SUBSYSTEM: MDAC ID: ITEM: SWITCH	8272	COMM AND TRACK 8272 FLT DECK TVC MONOCHROME LENS ASSY Z									
LEAD ANALYST: W.C. LONG											
ASSESSMENT:											
CRITICAI FLIGH	CIL ITEM										
HDW/FU		1	3	С							
NASA [/ IOA [3 /3] [] []	[]	[] *]				
COMPARE [N /N] [] []	[]	[]				
RECOMMENDATIONS:	(If dif	ferent f	com NA	SA)							
[/] [] []	[] (A	[[] DELETE)				
* CIL RETENTION REMARKS:	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []										
NO COUNTERPART N	IASA CCTV F	MEA. NO	r CRIT	ICAL.							

ASSESSMENT DATE: 3/05/88 ASSESSMENT ID: COMTRK-8273 NASA FMEA #:										NASA DATA: BASELINE [] NEW []					
SUBSYSTEMDAC ID: ITEM: SWITCH				COMM 8273 MID I		ООМ	CONTROL								
LEAD ANALYST: W.C. LONG															
ASSESSMENT:															
CRITICALITY REDUNDANCY S FLIGHT HDW/FUNC A B								SCRI		c	CIL ITEM				
-	•		., 10		•	•									
NASA IOA	[[3.	/ /3]	[]	[]	[[]		[]*		
COMPARE	[N	/N]	[3	[]	[]		[]		
RECOMMEN	IDA!	rI	ons:	(II	dif	fere	nt fr	om NA	ASA)						
	[/]	[]	[]	[]	(A	[DD/I] DELETE)		
* CIL RE	ETE	NT:	ION :	RATION	IALE:	(If	appl.	icab]		ADEQUA ADEQUA	TE	[]		
REMARKS:		PAI	RT N	ASA CO	CTV F	MEA.	NOT	CRIT		-		L	•		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8274			NASA DATA: BASELINE [] NEW []			
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AND TR 8274 MID DECK TV		ROME LEN	S ASSY Z	OOM	CONTROL	
LEAD ANALYST:	W.C. LONG					-	
ASESSMENT:							
CRITICAL		UNDANCY :	SCREENS	ENS		CIL ITEM	
FLIGH HDW/FU		В	С		~ ~ ~		
NASA [/ IOA [3 /3] []	[] []	[] *	
COMPARE [N /N] []	Γ] []	[]	
RECOMMENDATIONS:	(If diffe	rent from	m NASA)				
. [/] []	[] [(A	[.DD/I] DELETE)	
* CIL RETENTION REMARKS:	RATIONALE: (If appli	A	DEQUATE DEQUATE	[]	
NO COUNTERPART N	ASA CCTV FME	A. NOT	CRITICAL	•			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:				NASA DATA BASELINE NEW	[]	
MDAC ID:	8275	COMM AND TRACK 3275 TVC A MONOCHROME LENS ASSY IRIS CONT				
LEAD ANALYST:	W.C. LO	.c. Long				
ASSESSMENT:						
CRITICAL FLIGH	r	REDUNDA A	NCY SCRE	ENS C	CIL ITEM	
HDW/FU	NC	A	Б	C		
NASA [/ IOA [2 / 1R COMPARE [N / N] [p]	[] [P]	[] [P]	[] * [X]	
COMPARE [N /N] [n j	[N]	[N]	[N]	
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)		
[2 /1R] [P] '	[P]		[A] DD/DELETE)	
* CIL RETENTION	D A MIT () NI A T I	r. /Tf a	nnliashl	0)		
* CIL RETENTION	RATIONAL	E: (II a	ppiicani	ADEQUATE INADEQUATE	[]	
REMARKS:						
NO COUNTERPART N						
				ORM THIS FUN		
RESULT IN LOSS O	r CCTV Al	ND SORRE	QUENT LO	SS OF AFHICT	E AND CREW.	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		276	NASA DATA BASELINE NEW				
	8276	COMM AND TRACK 8276 TVC A MONOCHROME LENS ASSY IRIS CONT					
LEAD ANALYST:	W.C. LONG	3					
ASSESSMENT:							
CRITICAL FLIGH	S	CIL ITEM					
HDW/FU	NC A	А В	С				
NASA [/ IOA [2 /1R] [P	[P] [P] [P]	[x] *			
COMPARE [N /N] [N	и) [и] [и	и]	[N]			
RECOMMENDATIONS:	(If dif	fferent from NASA	.)				
[2 /1R] [F	P] [P]· [P] (A	[A] DD/DELETE)			
* CIL RETENTION	RATIONALE:	: (If applicable) I	ADEQUATE NADEQUATE	[]			
MISSION. LOSS O	F ALL CAPA	FMEA. FAILAURE C ABILITY TO PERFOR D SUBSEQUENT LOSS	M THIS FUN	T IN LOSS OF CTION COULD			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:			NASA DATA: BASELINE NEW	
	COMM AND TRACE 8277 TVC B MONOCHRO	•	IRIS CONT	TROL SWITCH
LEAD ANALYST:	W.C. LONG			
ASSESSMENT:				
CRITICAL: FLIGHT	TY REDUNE	ANCY SCREENS	3	CIL ITEM
HDW/FUI		В	C	TIEM
NASA [/ IOA [2 /1R] []]	[P] [P]	[x] *
COMPARE [N /N] [N]	[N]	n]	[N]
RECOMMENDATIONS:	(If differen	t from NASA))	
[2 /1R] [P] ·	[P] [P] (AE	[A] DD/DELETE)
* CIL RETENTION I	RATIONALE: (If		ADEQUATE IADEQUATE	
REMARKS: NO COUNTERPART NAMESSION. LOSS OF RESULT IN LOSS OF	F ALL CAPABILIT	FAILAURE CO	OULD RESULT	IN LOSS OF

ASSESSMEN ASSESSMEN NASA FME	NT ID:			78]		SA DAT ASELIN NE]
SUBSYSTEM MDAC ID:		8278	COMM AND TRACK 8278 TVC B MONOCHROME LENS ASSY IRIS CON					NTRC	L	SWITCH			
LEAD ANA	LYST:	w.c. Lo	N.C. LONG										
ASSESSME	NT:												
CRITICALITY REDUNDA FLIGHT HDW/FUNC A					EY B	ŠCREE		C		CI	L	ſ	
	HDW/FO	NC	Ω			ט			•				
NASA IOA	[/ [2 /1R] [P]	[P]	[P]	[x] *]
COMPARE	[N /N] [N]	[N	1	[]	N]	[N]
RECOMMEN	DATIONS:	(If d	iff	ferent	f	fro	om NAS	SA)					
•	[2 /1R] [P]	[P]	[]	P] (A 'DE] ELETE)
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []													
REMARKS: NO COUNT! MISSION. RESULT I	LOSS O	F ALL CA	PAI	BILITY	7	CO	PERF	RM	T	HIS FU	NCTI	101	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8	279		NASA DATA: BASELINE NEW	[]
	COMM AND 8279 TVC C MO		LENS ASSY	IRIS CONT	TROL SWITCH
LEAD ANALYST:	W.C. LON	Ğ		. T	* 4
ASSESSMENT:					
CRITICAL: FLIGHT		REDUNDANC	Y SCREENS	}	CIL ITEM
HDW/FUI		A	В	С	IICM
NASA [/ IOA [2 /1R] [P] · [P] [p]	[x] *
COMPARE [N /N] [и] [и] [и ј	[N]
RECOMMENDATIONS:	(If di	fferent f	rom NASA)		
[2 /1R] [P] [P] [[A] D/DELETE)
* CIL RETENTION I	RATIONALE	: (If app			
				ADEQUATE ADEQUATE	
REMARKS: NO COUNTERPART NA MISSION. LOSS OF RESULT IN LOSS OF	F ALL CAP	ABILITY T	O PERFORM	THIS FUNC	TION COULD

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8	8280	NASA DATA BASELINE NEW	[]			
SUBSYSTEM: MDAC ID: ITEM:	8280	COMM AND TRACK 3280 TVC C MONOCHROME LENS ASSY IRIS CONT					
LEAD ANALYST:	W.C. LO	N.C. LONG					
ASSESSMENT:							
CIVITA INDUITABLE OF THE CONTRACT OF THE CONTR					CIL ITEM		
HDW/FU	NC	A	B _.	С			
NASA [/ IOA [2 /1R] [P]	P] [] P]	[] * []		
COMPARE [N /N] [и]	[и]	[א]	[]		
RECOMMENDATIONS:	(If d	ifferent	from NASA	A)			
. [2 /1R	.] [P]	[P]	[P] (A	[A] DD/DELETE)		
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []							
REMARKS: NO COUNTERPART N MISSION. LOSS O RESULT IN LOSS O	F ALL CA	PABILITY	TO PERFOR	RM THIS FUN	CTION COULD		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8:	281	NASA I BASEI	DATA: LINE [] NEW []
SUBSYSTEM: MDAC ID: ITEM:	8281		ENS ASSY IRIS	CONTROL SWITCH
LEAD ANALYST:	W.C. LONG	G		
ASSESSMENT:				
FLIGH'	r	REDUNDANCY		CIL ITEM
HDW/FUI	NC I	A B	C	
NASA [/ IOA [2 /1R] [P] [P] [p]	[] * [X]
COMPARE [N /N] [1	N] [N] [N]	[N]
RECOMMENDATIONS:	(If di	fferent fro	om NASA)	
[2 /1R] []	P] [P] [P]	[A] (ADD/DELETE)
* CIL RETENTION I	RATIONALE	: (If appli	ADEQUA	ATE []
REMARKS:				
MISSION. LOSS OF RESULT IN LOSS OF	F ALL CAPA	ABILITY TO	PERFORM THIS	FUNCTION COULD

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		282	· · ·				
	8282	COMM AND TRACK 8282 TVC D MONOCHROME LENS ASSY IRIS CONT					
LEAD ANALYST:	W.C. LON	W.C. LONG					
ASSESSMENT:							
FLIGH	CRITICALITY REDUNDANCY SCREENS FLIGHT				CIL ITEM		
HDW/FU	NC .	A	В	С			
NASA [/ IOA [2 /1R] [P] [P]	[] [P]	[x] *		
COMPARE [N /N] []	и] [и	и ј	[и]	[N]		
RECOMMENDATIONS:	(If di	fferent :	from NAS	A)			
[2 /1F	.]	P] [P]	[P]	[A] ADD/DELETE)		
* CIL RETENTION	RATIONALE	: (If ap	•) ADEQUATE INADEQUATE	[]		
REMARKS: NO COUNTERPART N MISSION. LOSS O	F ALL CAP	ABILITY '	ro perfo	RM THIS FU	NCTION COULD		

	ENT DATE: ENT ID: EA #:			33			N	NASA 1 BASE:]
SUBSYSTEMDAC ID: ITEM: SWITCH	EM:	8283							ssy I	RIS	CONTROL
LEAD ANA	ALYST:	W.C. LO	NG								
ASSESSME	ENT:										
	CRITICAL:		RE	DUNDA	NCY	SCF	REENS			CIL	•
	HDW/FU	_	A		E	}	c	2		IIEP.	
NASA IOA	[/ [3 /2R] [P]	[[F]	[[F	,]		[] *]
COMPARE	[N /N] [N]	[N]	[N	1]		[]
RECOMMEN	DATIONS:	(If d	iff	erent	fr	om N	NASA)				
	[3 /2R] [P]	[P	1	[P	'].	(AD	[D/DE] LETE)
* CIL RE	TENTION 1	RATIONAL	E:	(If a	ppl	icak	A	DEQUA] []
	ERPART N								BILIT	Y TO	PERFORM

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8284	NASA DATA: BASELINE [NEW [
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AND TRACK 8284 RMS WRIST TVC MONOCHROME	LENS ASSY IF	RIS CONTROL
LEAD ANALYST:	W.C. LONG		
ASSESSMENT:			
CRITICAL FLIGH		CIL ITEM	
HDW/FU		С	
NASA [/ IOA [3 /2R	[] [] [] [] [] [P]	[] ! [P]	[] *
COMPARE [N /N] [N] [N]	[N]	[]
RECOMMENDATIONS:	(If different from NAS	SA)	
[3 /2R	[P] [P]		[] D/DELETE)
* CIL RETENTION	RATIONALE: (If applicable		[] []
REMARKS: NO COUNTERPART N THIS FUNCTION CO	ASA CCTV FMEA. LOSS OF A	ALL CAPABILITY	Y TO PERFORM

ASSESSME ASSESSME NASA FME		3/05/88 COMTRK-	8285		NASA D. BASEL	
SUBSYSTE MDAC ID: ITEM: SWITCH		8285		MONOCHROI		SY IRIS CONTROL
LEAD ANA	LYST:	W.C. LO	NG			
ASSESSME	NT:					. Any
	CRITICAL FLIGH		REDUNE	ANCY SCRI	EENS	CIL ITEM
	HDW/FU		A	В	C	IIEM
NASA IOA	[/ [3 /2R] [p]	[] [P]	[] [P]	[] *
COMPARE	[N /N	j (N]	[N]	[N]	[]
RECOMMEN	DATIONS:	(If d	ifferen	t from NA	ASA)	
	[3 /2R] [Pj	[P]	[P]	[] (ADD/DELETE)
	TENTION 1	RATIONAL	E: (ÎÎ	applicab	le) ADEQUA' INADEQUA'	re []
				LOSS OF MI		ILITY TO PERFORM

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8286		NASA DATA: BASELINE NEW								
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AND TRA 8286 RMS ELBOW TV	CK C MONOCHROME	LENS ASSY I	RIS CONTROL							
LEAD ANALYST:	W.C. LONG										
ASSESSMENT:											
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM											
NASA [/ IOA [3 /2R] []]	[] [P]	[] [P]	* []							
COMPARE [N /N] [N]	[N]	[и]								
RECOMMENDATIONS:	(If differ	ent from NASA	A)								
[3 /2R] . [P]	[P]	[P] (AD	[DD/DELETE)							
* CIL RETENTION	RATIONALE: (1) ADEQUATE INADEQUATE	[]							
REMARKS: NO COUNTERPART N THIS FUNCTION CO				Y TO PERFORM							

ASSESSM ASSESSM NASA FM	ENT :	ID:		/88 RK-82	87			ì	IASA BASE		[]	
SUBSYST MDAC ID ITEM: SWITCH			8287			k Monoc	HROM	E LEI	IS AS	SY I	RIS	CONT	'ROL
LEAD AN	ALYS'	T:	W.C.	LONG	;								
ASSESSM	ENT:												
		TICAL FLIGH		F	EDUN	DANCY	SCR	REENS			CII		
		DW/FU		A	1	В	•	C	3		***	J1-1	
NASA IOA	[3 /3]]]	[]	[]		[] *]	
COMPARE	[]	N /N]	[]	[]	[]		[]	
RECOMME	NDAT	ions:	(I	f dif	fere	nt fr	om N	(ASA)					
	[./	1	[]	[J	[]	(A)	[DD/I] DELET	E)
* CIL R		TION	RATIO	NALE:	(If	appl	icab	I	DEQU.		[]	
REMARKS		א ייים או	7 C 7 C	CU17 E	ME A	NOT	CDI	'ጥፐ <i>ር</i> ኔ፣					

	STEM: COMM AND TRACK										NASA DATA: BASELINE [] NEW []					
SUBSYSTE MDAC ID: ITEM: SWITCH				828	88				HROME	: LEN	S ASS	ΥI	RIS	CONTR	OL	
LEAD ANA	LY	ST	:	W.(с. і	LONG										
ASSESSMENT:																
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C																
FLIGHT HDW/FUNC A B											•					
NASA IOA	[[3	/3]		[]	[[]	[[]		[] *		
COMPARE	Į	N	/N]		[]	[]	[]		[]		
RECOMMEN	DA'	ΓI	ons:		(If	dif	fere	nt fr	om NA	ASA)						
	[/]		[]	E	J	[]	(A	[.DD/1] DELETE)	
* CIL RE		NT:	ION	RAT	ION	ALE:	(If	appl	icab]	P	DEQUA		[]		
NO COUNT		PA:	RT N	ASA	CC	rv f	MEA.	NOT	CRIT	CICAI	١.					

ASSESSME ASSESSME NASA FME	NT I	D:	3/05/8		89				ASA DAT BASELII NI]
SUBSYSTE MDAC ID: ITEM: SWITCH	M:		COMM 2 8289 MID DI							IRIS	CONTROL
LEAD ANA	LYSI	r:	W.C. 1	LONG							
ASSESSME	NT:										
		CICAL LIGH	ITY	R	EDUNI	DANCY	SCRE	ENS		CII	
			NC	A		В		С		111	5.PT
NASA IOA	[3	/3]	[]	[]	[[]	[] *
COMPARE	[N	I /N]	[]	[]	Ε]	[]
RECOMMEN	DATI	ons:	(If	dif	ferer	nt fro	om NA	SA)			
	[/	1	[]	[]	[] ([ADD/I] DELETE)
* CIL RE	TENT	I NOI	RATION	ALE:	(If	appli	icable	ΑI	DEQUATE DEQUATE	•]
REMARKS:	ERPA	RT N	ASA CCI	rv Fi	MEA.	NOT	CRIT	ICAL.	•		

ASSESSME ASSESSME NASA FME	NT	I		3/05/ COMTE			1	NASA DA BASELI N]			
SUBSYSTE MDAC ID: ITEM: SWITCH	AC ID: 8290 EM: MID DECK TVC MONOCHROME LEN										IRI	s co	NTROL
LEAD ANA	LY:	ST	:	W.C.	LONG	}							
ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL													
FLIGHT ITEM HDW/FUNC A B C													
NASA IOA	[3	/3]	[[]	[]	[]	[[]	*
COMPARE	[N	/N]	[]	[]	[]	[]	
RECOMMEN	DA	TI	ons:	(I	f dif	fere	nt fr	om N	'ASA)				
	[/]	ĺ	3	[ֹ]	[1	(ADD	/DEI	LETE)
* CIL RE										ADEQUAT ADEQUAT	-]	
1.0 00011		1					2.02			_			

ASSESSME ASSESSME NASA FME	NT I	ID:	3/05 COMT	/88 RK-82	291			1	NASA I BASEI		[]	
SUBSYSTE MDAC ID: ITEM: SWITCH			8291	AND DECK			ANGI	E LEI	NS ASS	SY F	ocus	CON	TROI
LEAD ANA	LYS	r:	W.C.	LONG	3								
ASSESSME	NT:												
		rical Fligh	***	I	REDUN	DANCY	SCR	EENS			CIL		
		OW/FU		7	A	E	3	C	2				
NASA IOA	[3	3 /3]]]	[]	[]		[] *	
COMPARE	[]	N / N]	[]	[]	[]		[] .	
RECOMMEN	DATI	ions:	(I	f dif	fere	nt fr	om N	ASA)					
	[/]	[]	[]	[]	(Al	[DD/D] ELET	E)
* CIL RE	TENI	rion :	RATIO	NALE:	(If	appl	icab	P	DEQUA		[]	
REMARKS:	ERP	ART N	ASA C	CTV F	MEA.	гои	CRI	TICAL	.				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-829	92		NASA DA BASELI N]
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AND 18292 FLT DECK 1		ANGLE	LENS ASSY	FOCUS	CONTROL
LEAD ANALYST:	W.C. LONG					
ASSESSMENT:						
CRITICAL FLIGH		EDUNDANCY	SCREE	ens	CIL	
HDW/FU		3	С			
NASA [/ IOA [3 /3] [] []	[]]] *
COMPARE [N /N] [] []	[]	[]
RECOMMENDATIONS:	(If dif	ferent fi	rom NAS	SA)		,
[/] [] [}	[]	[(ADD/D] ELETE)
* CIL RETENTION REMARKS:				ADEQUAT INADEQUAT]
NO COUNTERPART N	ASA CCTV F	MEA. NO	r criti	CAL.		

ASSESSME ASSESSME NASA FME	NT I		3/05/ COMTR		93			ŀ	NASA DAT BASELIN NE] .
SUBSYSTE MDAC ID: ITEM: SWITCH	M:		COMM 2 8293 FLT D				ANGLE	LEN	IS ASSY	ZOOM	CONTROL
LEAD ANA	LYST	:	W.C.	LONG							
ASSESSME	NT:										
		ICAL LIGH		R	EDUNI	DANCY	SCRE	ENS		CII	
		W/FU		A		В		C	:		
NASA IOA	[3	/ /3]	[]	[]	[]	[.] *
COMPARE	[и	/N]	[]	[]	[]	[]
RECOMMEN	DATI	ons:	(If	dif	ferer	nț fr	om NA	SA)	,		
	C	/]	[]	[] .	[]	[· ADD/E] ['] ELETE)
* CIL RE	TENT	ION 1	RATION	ALE:	(If	appl	icabl	À	DEQUATE]
REMARKS: NO COUNT	ERPA	RT N	ASA CC	rv Fi	MEA.	NOT	CRIT	ICAL		-	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8294		NASA DAT BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AND TRA 8294 FLT DECK TV		E LENS ASSY	ZOOM CONTROL
LEAD ANALYST:	W.C. LONG			
ASSESSMENT:				
CRITICAL FLIGH		UNDANCY SCR	EENS	CIL ITEM
HDW/FU		В	С	
NASA [/ IOA [3 /3] []	[]	[]	[] *
COMPARE [N /N] []	[]	[]	[]
RECOMMENDATIONS:	(If diffe	rent from N	ASA)	
[/] []	[]	[]	[] (ADD/DELETE)
* CIL RETENTION REMARKS:	RATIONALE: (If applicab	le) ADEQUATI INADEQUATI	
NO COUNTERPART N	ASA CCTV FME	A. NOT CRI	TICAL.	

ASSESSMI ASSESSMI NASA FMI	ENT	I				38 K - 82	95]	NASA BASE		[]	
SUBSYSTI MDAC ID: ITEM: SWITCH				82	95		TRAC	K WIDE	Angi	LE LEI	NS AS	SY I	RIS	CON	ITROL
LEAD ANA	/LY	ST	:	W.	c. I	LONG									
ASSESSMI	ENT	:													
		F	ICAL LIGH W/FU	T		R A		id an cy B	· · · · · · · · · · · · · · · · · · ·				CII	-	
NASA IOA	[3	/3]		[]	[]	[]		[]	*
COMPARE	[N	/N]		נ]	[]	[]		[]	
RECOMMEN	IDA	TI	ons:		(If	dif	fere	nt fr	om N	IASA)					
	[/]		[]	[]	[]	(A	[DD/I] DELE	TE)
* CIL RE		NT:	ION	RAT	CONA	LE:	(If	appl	icab	7	ADEQUA	ATE	[]	
REMARKS:		PAI	RT N	ASA	CCI	V F	MEA.	NOT	CRI	TICAL					

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-829	96			A DATA SELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM: SWITCH	LENS	ASSY I	RIS	CONTROL			
LEAD ANALYST:	W.C. LONG						
ASSESSMENT:							
CRITICAL FLIGH		EDUNDANC!	SCRE			CII	
HDW/FU	NC A]	3	С			÷
NASA [/ IOA [3 /3] [] []	[]		[[] *]
COMPARE [N /N] [] []	[]		[]
RECOMMENDATIONS:	(If ḍif	ferent f	rom NA	SA)			
['/] [] · []	[]		[DD/I] DELETE)
* CIL RETENTION REMARKS:	RATIONALE:	(If app	licabl	ADE	QUATE QUATE	[]
NO COUNTERPART N	ASA CCTV F	MEA. NO	r CRIT	ICAL.			

ASSESSMI ASSESSMI NASA FMI	ENT ID		3/05/8 COMTR		97				ASA DAT BASELIN NE]	
SUBSYSTIMDAC IDITEM: SWITCH		8	COMM 2 3297 MID DI				ANGLE	LEN	S ASSY	FOCUS	CONTROL	
LEAD AN	ALYST:	V	V.C.	LONG								
ASSESSMENT:												
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM												
		FUNC	2	A		В		С		IIE	.1	
NASA IOA		/] /3]		[]	[]	[]	[] *	
COMPARE	[N /	/N]	l	[J	Ţ]	[]	[]	
RECOMMEN	NDATION	15 :	(If	dif	feren	t fr	om NA	SA)				
	[/	′]		t]	[]	[] ([ADD/DI] ELETE)	
* CIL RI	ETENTIC	ON RA	ATION?	ALE:	(If	appl:	icabl	A.	DEQUATE DEQUATE]	
REMARKS:		א אי	א רפיי	וים עציו	WEA	мот	CRTU.		-		•	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-829	98		NASA DA' BASELI N]
	COMM AND 18298 MID DECK 1		ANGLE	LENS ASSY	FOCUS	CONTROL
LEAD ANALYST:	W.C. LONG					
ASSESSMENT:						
CRITICAL FLIGH		EDUNDANCY	SCREE	ns	CIL	
HDW/FU		F	3	С		••
NASA [/ IOA [3 /3] [] []	[]]] *]
COMPARE [N /N] [] [1	[]	C]
RECOMMENDATIONS:	(If dif:	ferent fr	om NAS	A)		
[/] [] []	[]	[(ADD/D] ELETE)
* CIL RETENTION	RATIONALE:	(If app)	licable	ADEQUAT INADEQUAT	_]
REMARKS: NO COUNTERPART N	ASA CCTV FI	MEA. NOT	CRITI	CAL.		

ASSESSME ASSESSME NASA FME	NT	I		•	05/88 MTRK-8:	299			ì	NASA I BASEI		[]	
SUBSYSTE MDAC ID: ITEM: SWITCH	M:			829	MM AND 99 D DECK			ANGL	E LEI	S AS	SY Z	OOM	CONT	ROL
LEAD ANA	LYS	ST	:	W.	c. Lond	3								
ASSESSME	NT:	:												
		F	ICAL LIGH N/FU	T		REDUN A	IDANCY B	-				CII		
NASA IOA	[3	/]	[]	[]	. []		[] *	
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	DAT	ri(ons:	ı	(If di	ffere	ent fr	om N	ASA)					
	[/]	[]	[]	[]	(A	[.DD/I] DELET	E)
* CIL RE	TEN	1 T :	ION :	RAT	IONALE	: (If	appl	icab	. 7	ADEQU <i>I</i>		[]	
NO COUNT	ERI	PAI	RT N	ASA	CCTV I	FMEA.	NOT	CRI	TICAI	J •			-	

ASSESSMEI ASSESSMEI NASA FMEI	NT ID:	3/05/8 COMTRE	8 (-830	00				ASA DATA BASELINI NEV]
SUBSYSTER MDAC ID: ITEM: SWITCH	M:	COMM A 8300 MID DE			DE A	Angle	LENS	S ASSY :	ZOOM	CONTROL
LEAD ANA	LYST:	W.C. I	ONG							
ASSESSME	NT:									
	CRITICAL		RI	EDUND?	ANCY	SCREE	ens		CII	_
	FLIGH HDW/FU		A				С			
NASA IOA	[/ / 3 /3]	[]	[.]	[]	[] *
COMPARE	[N /N]	[]	[]	[]	[]
RECOMMEN	DATIONS:	(If	dif	ferent	t fr	om NAS	SA)			
	[/]	[]	[]	[] ([ADD/I] DELETE)
* CIL RE	TENTION	RATION	ALE:	(If a	appl.	icable	Α	DEQUATE DEQUATE]
NO COUNT	ERPART N	ASA CC	rv fi	MEA.	NOT	CRIT	ICAL	•		

ASSESSME ASSESSME NASA FME	NT	I			05/88 MTRK-83	301			1	IASA BASE		E []				
SUBSYSTE MDAC ID: ITEM: SWITCH	M:			830	MM AND 01 0 DECK			ANGI		IS AS	SY I	RIS	CONT	ROL		
LEAD ANA	LYS	ST	:	w.c	c. LONG	3										
ASSESSME	NT:	:								-						
		F	ICAL LIGH W/FU	T	I Z		IDANCY E			ENS CIL ITEM C						
NASA IOA	[3	/3]	[]	[]	[]		[] *			
COMPARE	[N	/N]	[]	[]	[]		[]			
RECOMMEN	DAT	CI(ons:	([If dif	fere	nt fr	om N	(ASA)				e*			
	[/]	[]	[]	[]	(A	[DD/I] ELET:	E)		
* CIL RE	TEN	T	ION I	RATI	ONALE:	(If	appl	icab	A	DEQUA	ATE	[]			
REMARKS: NO COUNT	ERI	PAI	RT N	ASA	CCTV F	MEA.	пот	CRI	TICAL			2 12				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-83	02			ASA DATA BASELINE NEW	[]	
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AND 18302 MID DECK 1		ANGLE	LENS	S ASSY I	RIS	CONTROL	
LEAD ANALYST:	W.C. LONG							
ASSESSMENT:								
CRITICAL		EDUNDANC	SCRE	ENS				
FLIGH HDW/FU		I	3	С		CIL ITEM [] * [] (ADD/DELETE)		
NASA [/ IOA [3 /3] [] []	[]	[] *]	
COMPARE [N /N] [] []	[]	[]	
RECOMMENDATIONS:	(If dif	ferent f	rom NA	SA)	÷			
[/] [] []	[] (A			
* CIL RETENTION	RATIONALE:	(If app)	licabl	AI	DEQUATE DEQUATE	[]	
REMARKS: NO COUNTERPART N	IASA CCTV F	MEA. NO	r CRIT	ICAL.	•			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-830:	3	NASA DATA: BASELINE NEW	•
SUBSYSTEM: MDAC ID: ITEM:	8303	rack R Lens assy foct	US CONTROL	SWITCH
LEAD ANALYST:	W.C. LONG			
ASSESSMENT:				
CRITICAL: FLIGHT		DUNDANCY SCREENS		CIL
HDW/FU	IC A	В	C	
NASA [/ IOA [2 /1R] [P] [] [] [P ₂] ₇ [p]	[
COMPARE [N /N] [N]] [и] [n j	[и]
RECOMMENDATIONS:	(If diffe	erent from NASA)	
[2 /1R] [P]] [P] · [[A] D/DELETE)
* CIL RETENTION P	RATIONALE:	(If applicable)	ADEQUATE	f 1 · ·
DEM DWG		II	VADEQUATE	į
	ALL CAPAB	ILITY TO PERFORM	I THIS FUNC	TION COULD
RESULT IN LOSS OF	F CCTV AND S	SUBSEQUENT LOSS	OF VEHICLE	AND CREW.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8	3304		NASA DATA BASELINE NEW					
	8304	OMM AND TRACK 304 VC A COLOR LENS ASSY FOCUS CONTROL							
LEAD ANALYST:	w.c. Lo	C. LONG							
ASSESSMENT:									
CRITICAL FLIGH	CIL ITEM								
HDW/FU	=	A	В	С					
NASA [/ IOA [2 /1R] [p]	[] [P]	[[x] *				
COMPARE [N /N] [N]	[N]	[N]	[и]				
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)					
[2 /1R] [P]	[P]		[A] DD/DELETE)				
* CIL RETENTION	RATIONAL	E: (If a	applicabl	e) ADEQUATE INADEQUATE	[]				
REMARKS: NO COUNTERPART N MISSION. LOSS O RESULT IN LOSS O	F ALL CA	PABILITY	TO PERF	COULD RESULT	IN LOSS OF				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8305	NASA DATA BASELINE NEW	
	COMM AND TRACK 8305 TVC A COLOR LENS	ASSY ZOOM CONTROL	SWITCH
LEAD ANALYST:	W.C. LONG		
ASSESSMENT:			
CRITICAL FLIGH HDW/FU		CY SCREENS B C	CIL ITEM
NASA [/ IOA [2 /1R] [] [] [P] [P] [P]	[x] *
COMPARE [N /N] [N] [и] [и]	[и]
RECOMMENDATIONS:	(If different i	from NASA)	
[2 /1R] [P] [[A] DD/DELETE)
	RATIONALE: (If app	plicable) ADEQUATE INADEQUATE	[]
MISSION. LOSS O	F ALL CAPABILITY T	AILURE COULD RESULT TO PERFORM THIS FUN	CTION COULD

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-			NASA DATA BASELINI NEV					
	COMM AND 8306 TVC A C			OOM CONTROL	SWITCH				
LEAD ANALYST:	W.C. LO	NG							
ASSESSMENT:									
CRITICAL FLIGH HDW/FU	T	REDUND A	ANCY SCRE B	EENS C	CIL ITEM				
NASA [/ IOA [2 /1R] [P]	[] [P]	[] [P]	[x] *				
COMPARE [N /N] [N]	[N]	[N]	[N]				
RECOMMENDATIONS:	•			•					
[2 /1R) [P]	[P]	[P]	[A] ADD/DELETE)				
* CIL RETENTION	RATIONAL	E: (If	applicabl	.e) ADEQUATE INADEQUATE					
REMARKS: NO COUNTERPART N MISSION. LOSS O RESULT IN LOSS O	F ALL CA	PABILIT	Y TO PERF	FORM THIS FU	NCTION COULI				

3/05/88 COMTRK-	8307		NASA DATA BASELINE NEW	[]
8307		IS ASSY IF	RIS CONTROL S	SWITCH
W.C. LO	NG			
r			-	CIL ITEM
NC	A	В	C	
] [P]	[] [P]	[] [P]	[x] *
] [N]	[и]	[N]	[N]
(If d	ifferent	from NAS	SA)	
] [P]	[P]		[A] DD/DELETE)
RATIONALI	E: (If a	pplicable	2)	
			ADEQUATE INADEQUATE	[]
F ALL CA	PABILITY	TO PERFO	RM THIS FUNC	CTION COULD
	COMTRK- COMM AND 8307 TVC A CO W.C. LOD ITY T NC [] [[]	COMM AND TRACK 8307 TVC A COLOR LEN W.C. LONG ITY REDUNDA T NC A [COMM AND TRACK 8307 TVC A COLOR LENS ASSY IN W.C. LONG ITY REDUNDANCY SCREET TNC A B [COMTRK-8307 COMM AND TRACK 8307 TVC A COLOR LENS ASSY IRIS CONTROL S W.C. LONG ITY REDUNDANCY SCREENS T NC A B C [

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8			BASELINE NEW							
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8308 TVC A CO		RIS CONTROL	switch							
LEAD ANALYST:	W.C. LO	NG									
ASSESSMENT:											
CRITICAL FLIGH HDW/FU	T	REDUNDAM A	ICY SCREI	ens C	CIL ITEM						
NASA [/ IOA [2 /1R] [] P]	P]	[] [P]	[x] *						
COMPARE [N /N] [N] [ן א	[N]	[и]						
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)							
[2 /1R] [P]	P]		[A] ADD/DELETE)						
* CIL RETENTION	RATIONAL	E: (If ap	oplicable	e) ADEQUATE INADEQUATE							
REMARKS: NO COUNTERPART N MISSION. LOSS O	F ALL CA	PABILITY	TO PERF	ORM THIS FUN	ICTION COULD						

ASSESSMEN' ASSESSMEN' NASA FMEA	T I			/05/88 DMTRK-8309								ASA I BASEI		[]	
SUBSYSTEM MDAC ID: ITEM:	:		8309	COMM AND TRACK 1309 TVC B COLOR LENS ASSY FOCUS CONTR								ROL	sv	711	'CH		
LEAD ANAL	YST	' :	W.C. 1	LON	G												
ASSESSMEN'	ASSESSMENT:																
CRITICALITY REDUNDANCY SCREENS FLIGHT									CI I'I	L EM	[
	HD	W/FUI	1C	•	A			В			С						
NASA IOA	[[2	/ /1R]	[P]	[P]]	P]		[[X]	*
COMPARE	[И	/N]	[]	N]	[N]	[N]		[N]	
RECOMMENDA	ATI	ons:	(If	di:	ff	erent	: 1	fro	om NA	SA)							
·i	[2	/1R	1	[:	P	1	[P]	[P]] LE'	TE)
* CIL RET	ENT	ION F	RATIONA	LE	:	(If a	p	ol i	.cabl	e)				_		_	
2272										IN	AL	EQUA EQUA	TE	[]	
REMARKS: NO COUNTERPART NASA CCTV FMEA. FAILURE COULD RESULT IN LOSS OF MISSION. LOSS OF ALL CAPABILITY TO PERFORM THIS FUNCTION COULD RESULT IN LOSS OF CCTV AND SUBSEQUENT LOSS OF VEHICLE AND CREW.																	

ASSESSMEN	T D	ATE:	3/05/8	38					N.	ASA I	DATA	:			
ASSESSMEN NASA FMEA	T I		COMTRI		10				:	BASEI	LINE NEW	_]		
SUBSYSTEM MDAC ID:	1:		COMM A 8310 TVC B				ASS	SY FC	cus	CONT	rol	sw	TTC	H	
LEAD ANALYST: W.C. LONG															
ASSESSMEN	T:														
C		ICAL:	LTY L	F	EDUI	NDANC	Y S	CREE	ns			CI	L		
	_	W/FUI		A			В		С				LIT		
NASA IOA	[2	/ /1R]	[[F]]	P]		[[P]		[] X]	*	
COMPARE	[N	/N]	[N]	[N]		[11]		Ţ	N]		
RECOMMENI	OATI	ons:	(If	dif	fere	ent f	ron	n NAS	A)						
	[2	/1R]	[F)	[P]		[P]	(AI		A] DEL	ETE)	
* CIL RET	ENT	ION I	RATION	ALE:	(I1	f app	lic	able	•	DEOU	· mp	_	,		
										DEQU <i>I</i> DEQU <i>I</i>		[]		
REMARKS: NO COUNTE MISSION. RESULT IN	LOS	SS 01	F ALL (CAPA	BIL	T YT	O I	PERFC	RM '		FUNC	CTI	ON	COUI	Ď
THU CHI II		J		2341L		22220				- 4		- 47		-+	. •

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8	311		NASA DATA: BASELINE NEW	
	COMM AND 8311 TVC B CO		S ASSY ZO	OOM CONTROL S	SWITCH
LEAD ANALYST:	W.C. LON	r G			
ASSESSMENT:					
CRITICALI FLIGHT	•				CIL ITEM
HDW/FU	IC	A	В	C	
NASA [/ IOA [2 /1R] [P -]	[] [P]	[] [P]	[x] *
COMPARE [N /N] [и ј	[и]	[N]	[и]
RECOMMENDATIONS:	(If di	fferent	from NAS	SA)	
[2 /1R] [P]	[P]	[P] (AI	[A] DD/DELETE)
* CIL RETENTION I	RATIONALE	: (If a	pplicable	e) ADEQUATE INADEQUATE	[]
REMARKS: NO COUNTERPART NAMISSION. LOSS OF RESULT IN LOSS OF	F ALL CAP	ABILITY	TO PERFO	COULD RESULT	IN LOSS OF

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8	312		NASA DATA: BASELINE NEW	[]				
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8312 TVC B CO		ASSY ZOOM	CONTROL S	SWITCH				
LEAD ANALYST:	W.C. LON	īG							
ASSESSMENT:									
CRITICALITY REDUNDANCY SCREENS CIL									
FLIGH HDW/FU		A	В	С	11111				
NASA [/ IOA [2 /1R] [P] [p] [P]	[
COMPARE [N /N] [и] [и][N]	[N]				
RECOMMENDATIONS:	(If d	ifferent	from NASA)						
[2 /1R] [P] [P] [[A] DD/DELETE)				
	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []								
REMARKS: NO COUNTERPART N MISSION. LOSS O	F ALL CA	PABILITY	TO PERFORM	THIS FUNC	IN LOSS OF				

ASSESSMENT DATE:	3/05/88					1	NASA DATA	:			
ASSESSMENT ID: NASA FMEA #:	COMTRK-	B3 <u>1</u>	.3				BASELINE NEW]	
	COMM AND 8313 TVC B CO						CONTROL	SW:	TC	Н	
LEAD ANALYST:	W.C. LOI	NG									
ASSESSMENT:											
CRITICAL FLIGH HDW/FU	r	RE A	DUNDAN	CY B	SCREE		2	C	L	•	
·											
NASA [/ IOA [2 /1R] [P] [P]	[]) ?]	[x] ;	k
COMPARE [N /N] [N] [N]	[]	1]	[N]	
RECOMMENDATIONS:	(If d	iff	erent	fro	om NAS	A)					
[2 /1R] [P] [P]	[]			A ′DE		re)
* CIL RETENTION	RATIONALI	Ε:	(If ap	pli	cable	7	ADEQUATE ADEQUATE	[]	
REMARKS: NO COUNTERPART N						OUI	LD RESULT	Iì			
MISSION. LOSS OF							THIS FUNC				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-		NASA DATA BASELINE NEW	[]						
	COMM AN 8314 TVC B C		SWITCH							
LEAD ANALYST:	W.C. LO	NG								
ASSESSMENT:										
	CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM									
HDW/FU	NC	A	В	С						
NASA [/ IOA [2 /1R] [P]	[] [P]	[] [P]	[x]					
COMPARE [N /N] [ן א	[N]	[N]	[N]					
RECOMMENDATIONS:	(If d	liffere	nt from NA	SA)						
[2 /1F	ן נ	P]	[P]	[P]	[A] ADD/DELETE)					
* CIL RETENTION	RATIONAL	E: (If	applicabl							
ADEQUATE [] INADEQUATE []										
REMARKS: NO COUNTERPART NASA CCTV FMEA. FAILURE COULD RESULT IN LOSS OF MISSION. LOSS OF ALL CAPABILITY TO PERFORM THIS FUNCTION COULD RESULT IN LOSS OF CCTV AND SUBSEQUENT LOSS OF VEHICLE AND CREW.										

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8	3315		NASA DATA: BASELINE NEW	
	8315		S ASSY FOC	US CONTROL	SWITCH
LEAD ANALYST:	W.C. LOI	NG			
ASSESSMENT:					
CRITICAL: FLIGHT	ITY r	REDUNDA	NCY SCREEN	_	CIL ITEM
	AC	A	В	C	2 2 22 2
NASA [/ IOA [2 /1R] [P]	[] [[P] [P]	[
COMPARE [N /N] [N]	[и]	n]	[N]
RECOMMENDATIONS:	(If d	ifferent	from NASA	.)	
[2 /1R	1	P]	[P] [P] (AD	[A.] DD/DELETE)
* CIL RETENTION	RATIONALI	E: (If a	pplicable)	3 DEO!!3 EE	
			I	ADEQUATE NADEQUATE	
REMARKS: NO COUNTERPART NA MISSION. LOSS OF RESULT IN LOSS OF	F ALL CA	PABILITY	TO PERFOR	M THIS FUNC	TION COULD

ASSESS ASSESS NASA	MEN	ΙT	II		COMTRI		331	L6						BASEI		[]	
SUBSYS MDAC I		1:			COMM 8 8316 TVC C					A	SSY	FOC	US	CONT	ROL	sv	VI'I	CH	
LEAD A	ANAI	LYS	ST	•	W.C.	[O]	NG												
ASSESS	SMEN	NT:	:																
	(CR.		ICAL: LIGH:	ITY		RI	EDU	INDAN	CY	sc	REEN	S			CI II	IL PEM	Ī	
		I	-	W/FU			A			Е	}		C					-	
NA:	SA OA	[2	/ /1R]]	P]	[F]	[P]]	x] *	r
COMPA	RE	[N	/N]	[N	3	[N]	[N]		[N]	
RECOM	MENI	DA!	rI	ons:	(If	đ	if	fer	ent	fr	от	NASA)						
		[2	/1R	1	[P]	Į	F)	ſ	P]			A /DE] ELET	ľE)
* CIL	RE?	ΓE	NT:	ION :	RATION	AL	E:	()	[f ap	pl	ica		A	DEQU <i>I</i> DEQU <i>I</i>]	
MISSI	UNTI	•	LO	SS O	ASA CC F ALL F CCTV	CA	PA	BII	LITY	TC	PE	ERFOR	M '	THIS	FUN	CT:	101	LOSS	DULI

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:				NASA DATA: BASELINE [] NEW []					
MDAC ID:	8317	M AND TRACK 7 C COLOR LENS ASSY ZOOM CONTROL S							
LEAD ANALYST:	W.C. LON	īG							
ASSESSMENT:									
CRITICALI FLIGHT HDW/FUN		REDUNDANC	SCREENS	C ************************************	CIL ITEM				
NASA [/ IOA [2 /1R] [P] [P] [p]	[x] *				
COMPARE [N /N] [и] [и] [и ј	[N]				
RECOMMENDATIONS:	(If di	fferent f	rom NASA)						
[2 /1R	1, [P] [P] [[A] DD/DELETE)				
	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []								
REMARKS: NO COUNTERPART NASA CCTV FMEA. FAILURE COULD RESULT IN LOSS OF MISSION. LOSS OF ALL CAPABILITY TO PERFORM THIS FUNCTION COULD RESULT IN LOSS OF CCTV AND SUBSEQUENT LOSS OF VEHICLE AND CREW.									

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-			NASA DATA BASELINE NEW	[]			
MDAC ID:	8318	MM AND TRACK 18 C C COLOR LENS ASSY ZOOM CONTROL SWITCH						
LEAD ANALYST:	W.C. LONG							
ASSESSMENT:								
CRITICAL FLIGH	T		NCY SCRE		CIL ITEM			
HDW/FU	NC	A	В	C				
NASA [/ IOA [2 /1R] [P]	[] [P]	[_P]	[x] *			
COMPARE [N /N] [и ј	[и]	[N]	[N]			
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)				
[2 /1R	ί (Pj.	[P]	[P]	[A] ADD/DELETE)			
* CIL RETENTION	RATIONAL	E: (If a	pplicable	ADEQUATE	[]			
REMARKS: NO COUNTERPART N MISSION. LOSS O RESULT IN LOSS O	F ALL CA	PABILITY	TO PERF	ORM THIS FUN	IN LOSS OF			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:				NASA DATA: BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	8319		S ASSY IR	IS CONTROL S	SWITCH
LEAD ANALYST:	W.C. LON	I G			
ASSESSMENT:					
CRITICALI FLIGHT HDW/FUR	ľ	REDUNDAN A	ICY SCREE B	ns C	CIL ITEM
NASA [/ IOA [2 /1R] [P] [] P]	[] [P]	[
COMPARE [N /N] [и ј [ן א	[N]	[N]
RECOMMENDATIONS:	(If di	ifferent	from NAS	A)	
[2 /1R] [P] [[P]	[P] (AE	[A] DD/DELETE)
* CIL RETENTION I	RATIONALI	E: (If ag	_) ADEQUATE INADEQUATE	[]
REMARKS: NO COUNTERPART NA MISSION. LOSS OF RESULT IN LOSS OF	F ALL CAI	PABILITY	TO PERFO	RM THIS FUNC	CTION COULD

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-	8320		NASA DATA BASELINE NEW	[]
	COMM AND 8320 TVC C C		ASSY IRI	s CONTROL S	SWITCH
LEAD ANALYST:	W.C. LO	NG			
ASSESSMENT:					
CRITICAL: FLIGH HDW/FU	T	REDUNDAN A	CY SCREEN B	rs C	CIL ITEM
	_			·	r 1 ±
NASA [/ IOA [2 /1R) [] [P] [P] [ΡĴ	[x] *
COMPARE [N /N] [и] [и][N]	[и]
RECOMMENDATIONS:	(If d	ifferent	from NASA	.)	
[2 /1R] [P] [P] [P] (A)	[A] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If ap			
			I	ADEQUATE NADEQUATE	
REMARKS: NO COUNTERPART N MISSION. LOSS O RESULT IN LOSS O	F ALL CA	PABILITY	AILURE CO TO PERFOR	OULD RESULT	IN LOSS OF CTION COULD

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:				NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	COMM AN 8321 TVC D C		ASSY FOCU	JS CONTROL	SWITCH
LEAD ANALYST:	W.C. LO	NG			
ASSESSMENT:					
CRITICA: FLIG		REDUNDANG	CY SCREENS	;	CIL ITEM
	INC	A	В	c	1124
NASA [/ IOA [2 /1]	R] [P] [P] [P]	[
COMPARE [N /N]	и] [N] [и]	[и]
RECOMMENDATIONS	: (If d	ifferent 1	from NASA)		
[2 /1]	R] [P] [P] [P] (AE	[A] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If app	,	ADEQUATE	[]
	OF ALL CA	PABILITY 7	AILURE COU	ULD RESULT	TION COULD
RESULT IN LOSS (JF CCTV A	ND SUBSEQU	JENT LOSS	OL AEHICTE	AND CREW.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:				NASA DATA BASELIN NEV				
MDAC ID:	COMM AN 8322 TVC D C		NS ASSY FO	ocus contro	L SWITCH			
LEAD ANALYST: W.C. LONG								
ASSESSMENT:								
FLIGH	T		ANCY SCRE	ENS C	CIL ITEM			
HDW/FU	NC	Α .	В	C				
NASA [/ IOA [2 /1R] [p]	[] [P]	[] [P]	[
COMPARE [N /N] [N]	[N]	[N]	[N]			
RECOMMENDATIONS:	(If d	ifferen	t from NA	SA)				
[2 /1R] [P]	[P]	[P]	[A] ADD/DELETE)			
* CIL RETENTION	RATIONAL	E: (If a	applicabl	e) ADEQUATE INADEQUATE				
REMARKS: NO COUNTERPART N MISSION. LOSS O RESULT IN LOSS O	F ALL CA	PABILIT	Y TO PERF	ORM THIS FU	NCTION COUL			

ASSESSMENT DATE: ASSESSMENT ID:	3/05/88 COMTRK-8	3323		NASA DATA: BASELINE NEW	
NASA FMEA #:				NEW	l J
MDAC ID:	COMM ANI 8323		100V 7001	COMMINGS (WITE OU
ITEM:	TVC D CC	DLOR LENS	ASSY ZOOM	CONTROL S	WITCH
LEAD ANALYST:	W.C. LO	1G			
ASSESSMENT:					
		REDUNDANG	CY SCREENS		CIL
FLIGH HDW/FU	NÇ	A	В	C	ITEM
	•				
NASA [/ IOA [2 /1R] [P] [P] [P]	[] * [X]
COMPARE [N /N] [и] [и] [N]	[N]
RECOMMENDATIONS:	(If d:	ifferent :	from NASA)		
				D 1	
[2 /1R] [P J L	Pj	P] (AD	DD/DELETE)
* CIL RETENTION	RATIONALI	E: (If app	olicable)	ಎಕಡ್ಡಿಕ್ಕಬ್ಬಾಬ್	a sa sa
			TX	ADEQUATE IADEQUATE	[]
REMARKS:			TV	INDECONTE	L J
NO COUNTERPART N	ASA CCTV	FMEA. F	AILURE COU	LD RESULT	IN LOSS OF
MISSION. LOSS O	F ALL CAI	PABILITY T	O PERFORM	THIS FUNC	TION COULD
RESULT IN LOSS OF	F CCTV A	ND SUBSEQU	JENT LOSS	OF VEHICLE	E AND CREW.

ASSESSMENT DATE: ASSESSMENT ID:		1324		NASA DATA BASELINE	
NASA FMEA #:	COMIRK-0	524		NEW	
	COMM AND 8324 TVC D CO	*	S ASSY ZO	OOM CONTROL	SWITCH
LEAD ANALYST:	W.C. LON	īG			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	NCY SCREI	ens	CIL ITEM
HDW/FU		A	В	C ,	TIEM
NASA [/ IOA [2 /1R] [P]	[] [P]	[] [P]	[] * [x]
COMPARE [N /N] [и ј	[и]	[N]	[и]
RECOMMENDATIONS:	(If di	.fferent	from NAS	SA)	
[2 /1R] [Рј	[P]	[P] (A	[A] DD/DELETE)
* CIL RETENTION	RATIONALE	: (If a	pplicable		
				ADEQUATE INADEQUATE	
REMARKS: NO COUNTERPART N. MISSION. LOSS OF RESULT IN LOSS OF	F ALL CAP	ABILITY	TO PERFO	COULD RESULT	CTION COULD
VESOUT TH TOSS OF	CCIA WI	D SODSE	SOUNT TOO	OD OF AFUTCH	E AND CREW.

ASSESSMENT DATE:	3/05/88			NASA DATA	•
	COMTRK-8			BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	8325		S ASSY IR	IS CONTROL S	SWITCH
	W.C. LON	1G			
ASSESSMENT:					
CRITICAL: FLIGHT		REDUNDAN	ICY SCREE	NS	CIL ITEM
	1C	A	В	C	
NASA [/ IOA [2 /1R] [P] [P]	[] [P]	[] * [X]
COMPARE [N /N] [и] (N]	[и]	[N]
RECOMMENDATIONS:	(If d	ifferent	from NAS	A)	
[2 /1R] [P] [[P]	[P] (A	[A] DD/DELETE)
* CIL RETENTION 1	RATIONALI	E: (If ag) ADEQUATE INADEQUATE	
REMARKS: NO COUNTERPART NO MISSION. LOSS OF RESULT IN LOSS OF RESU	F ALL CA	PABILITY	TO PERFO	RM THIS FUN	CTION COULD

ASSESSMENT DA ASSESSMENT ID NASA FMEA #:		3/05/88 NASA DATA: COMTRK-8326 BASELINE NEW							
SUBSYSTEM: MDAC ID: ITEM:	8326	AND TRACK COLOR LENS	SWITCH						
LEAD ANALYST:	LEAD ANALYST: W.C. LONG								
ASSESSMENT:	ASSESSMENT:								
CRITICALITY REDUNDANCY SCREENS CIL ITEM									
HDW	/FUNC	A	В	C					
NASA [IOA [2	/] /1R]	[] [[P]] [P] [P]	[x] *				
COMPARE [N	/N]	[и]	и] [и]	[11]				
RECOMMENDATIO	NS: (If	different	from NASA))					
[2	/1R]	[P] [P] [P] (A	[A] DD/DELETE)				
* CIL RETENTI	ON RATION	ALE: (If ap	plicable)						
ADEQUATE [] INADEQUATE []									
REMARKS: NO COUNTERPART NASA CCTV FMEA. FAILURE COULD RESULT IN LOSS OF MISSION. LOSS OF ALL CAPABILITY TO PERFORM THIS FUNCTION COULD RESULT IN LOSS OF CCTV AND SUBSEQUENT LOSS OF VEHICLE AND CREW.									

ASSESSMENT DATE: 3/05/88 ASSESSMENT ID: COMTRK-8327 NASA FMEA #:											DATA: ELINE NEW	[]			
SUBSYSTE MDAC ID: ITEM: SWITCH			8327	COMM AND TRACK 3327 RMS WRIST TVC COLOR LENS ASSY FOCUS							CON	TROL				
LEAD ANALYST: W.C. LONG																
ASSESSME	ENT:															
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM																
		W/FUI		į	A			В			С			ITE	M	
NASA IOA	[3	/ /2R]	[P]	[P]	[P]		[] *	
COMPARE	[N	/N]	[]	N]	[N]	[N]		[]	
RECOMMEN	DATI	ons:	(If	di	ff	eren	t i	fro	om	NASA)						
	[3	/2R]	[]	P]	[P]	[P]	(AI	[D/D] ELETE)
REMARKS:																
	O COUNTERPART NASA CCTV FMEA. LOSS OF ALL CAPABILITY TO PERFORM HIS FUNCTION COULD RESULT IN LOSS OF MISSION.															

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	• •	NASA DATA BASELINE NEW	[]					
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AND TRACK 8328 RMS WRIST TVC COI							
LEAD ANALYST:	W.C. LONG							
ASSESSMENT:								
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM								
HDW/FU		В С	TIEN					
NASA [/ IOA [3 /2F	[P] [P] [P]	[x] *					
COMPARE [N /N] [N][и] [и]	[N]					
RECOMMENDATIONS:	(If different f	from NASA)						
[3 /2F	[P] [P]		[DD/DELETE)					
* CIL RETENTION	RATIONALE: (If app							
		ADEQUATE INADEQUATE	[]					
REMARKS: NO COUNTERPART NASA CCTV FMEA. LOSS OF ALL CAPABILITY TO PERFORM THIS FUNCTION COULD RESULT IN LOSS OF MISSION.								

ASSESSME ASSESSME NASA FME	NT I		3/05/8 COMTRI		32	9							DATA LINE NEW	[]	
SUBSYSTE MDAC ID: ITEM: SWITCH	M:		8329	OMM AND TRACK 129 IS WRIST TVC COLOR LENS ASSY ZOOM C							CONT	ROL				
LEAD ANALYST: W.C. LONG																
ASSESSMENT:																
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM																
	_	W/FU			A			В			С			,"	••	
NASA IOA	[3	/ /2R]	[P]	[P]	[P]		[] *	
COMPARE	[N	/N]	[N]	C	N]	[N]		[]	
RECOMMEN	DATI	ons:	(If	di	ff	erent	: 1	fro	om 1	NASA)					
•	[3	/2R	1	[P]	Ĩ	P]	(P]	(A	[.DD/D] ELETE)	
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []																
NO COUNT	REMARKS: NO COUNTERPART NASA CCTV FMEA. LOSS OF ALL CAPABILITY TO PERFORM THIS FUNCTION COULD RESULT IN LOSS OF MISSION.															
THIS FUN	crid	N CU	ULU KE	ىدەد	1	TIA TIC	<i>,</i> 0 :) (/E L	LLOO.	$\mathbf{L} \mathbf{U} \mathbf{I}$	7 .				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8330	NASA DATA BASELINE NEW	[]						
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AND TRACK 8330 RMS WRIST TVC CO								
LEAD ANALYST:	W.C. LONG								
ASSESSMENT:									
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM									
HDW/FU	- 	В С	-						
NASA [/ IOA [3 /2R	[P] [p] [p]	[] *						
COMPARE [N /N] [и] [N] [N]	[]						
RECOMMENDATIONS:	(If different	from NASA)							
[3 /2R	R] [P] [[P] [P] (A	[] DD/DELETE)						
	RATIONALE: (If ap	oplicable) ADEQUATE INADEQUATE	[]						
	IASA CCTV FMEA. L DULD RESULT IN LOS	OSS OF ALL CAPABILI	TY TO PERFORM						

ASSESSME ASSESSME NASA FME	NT	I)5/8: ITRK:		31							A DATA SELINE NEW	[]	
SUBSYSTE MDAC ID: ITEM: SWITCH				833	1		TRAC		LOI	R I	ENS	AS	SY	IRIS	CON	FROL	
LEAD ANA	LYS	ST	:	W.C	. L	ONG	;										
ASSESSME	NT:	:															
	CR]		ICAL:			F	REDU	NDAN(CY	sc	REEN	S			CII		
	I		/FUI			A			В			C				-111	
NASA IOA	[[3	/ /2R]		[[E	•]] [P]	[P]		[] *	
COMPARE	[N	/N]		[N	[]	[N]	[N]		[]	
RECOMMEN	'DA'I	CIC	ons:	(If	lif	fere	ent :	fro	om	NASA	.)					
	[3	/2R]		[F	']	[P	1	[P]	(A)	[DD/I] DELETE)
* CIL RE	TEN	T	ION I	RATI	ONA	LE:	(Ii	ap)	pl:	ica	·	Α	DEÇ	QUATE QUATE	[]	
NO COUNT														PABILI'	ry 1	O PER	FORM
THIS FUN	CT'	lOl	N COL) LD	RESU	ΙĽL	. TN	LOSS	s ()F	MISS	TO:	Ν.				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8332	NASA DATA BASELINE NEW	= -					
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AND TRACK 8332 RMS WRIST TVC CO	CONTROL						
LEAD ANALYST: W.C. LONG								
ASSESSMENT:								
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM								
HDW/FU		ВС						
NASA [/ IOA [3 /2F	[P]	[] [] [P] [P]	[] *					
COMPARE [N /N] [N]	[N] [N]	[]					
RECOMMENDATIONS:	(If different	from NASA)						
[3 /21	R] [P]	[P] [P] (A	[] ADD/DELETE)					
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []								
REMARKS: NO COUNTERPART NASA CCTV FMEA. LOSS OF ALL CAPABILITY TO PERFORM THIS FUNCTION COULD RESULT IN LOSS OF MISSION.								

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-			NASA DATA BASELINE NEW	
	8333			S ASSY FOCUS	CONTROL
LEAD ANALYST:	W.C. LO	NG			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	ANCY SCRE	ENS	CIL ITEM
HDW/FU		A	В	С	2.2.2.1
NASA [/ IOA [3 /2R] [p]	[p]	[<u>P</u>]	[] *
COMPARE [N /N] [N]	[N]	[N]	[]
RECOMMENDATIONS:	(If d	ifferent	from NA	SĀ)	
[3 /2R] [P]	[P]		[DD/DELETE)
* CIL RETENTION	RATIONALI	E: (If a	applicablo	e) ADEQUATE INADEQUATE	[]
REMARKS: NO COUNTERPART N. THIS FUNCTION CO					TY TO PERFORM

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8334	NASA DATA: BASELINE [] NEW []								
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AND TRACK 8334 RMS ELBOW TVC COLOR LEN	NS ASSY FOCUS CONTROL								
LEAD ANALYST:	W.C. LONG									
ASSESSMENT:										
CRITICAL FLIGH	EENS CIL ITEM									
HDW/FU		C								
NASA [/ IOA [3 /2R	[] [] [] [] [] [P]	[] [] * [P] []								
COMPARE [N /N] [N] [N]	[и] [и]								
RECOMMENDATIONS:	(If different from N	ASA)								
[3 /2R	E] [P] [P]	[P] []. (ADD/DELETE)								
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []										
REMARKS: NO COUNTERPART NASA CCTV FMEA. LOSS OF ALL CAPABILITY TO PERFORM THIS FUNCTION COULD RESULT IN LOSS OF MISSION.										

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8335		NASA DATA: BASELINE [] NEW []								
SUBSYSTEM: MDAC ID: ITEM: SWITCH	8335	ACK VC COLOR LENS A	SSY ZOOM CONTRO)L							
LEAD ANALYST:	W.C. LONG										
ASSESSMENT:											
CRITICAL FLIGH		UNDANCY SCREENS	CIL ITEM								
HDW/FU	NC A	В	С								
NASA [/ IOA [3 /2R] []]	[] [[P] [:] [] P] []	*							
COMPARE [N /N] [N]	[N]	и] []								
RECOMMENDATIONS:	(If differ	rent from NASA)	,								
[3 /2R] [P]	[P] [3	P] [] (ADD/DEL								
* CIL RETENTION	RATIONALE: (1	i	ADEQUATE [] ADEQUATE []								
REMARKS: NO COUNTERPART N. THIS FUNCTION CO			CAPABILITY TO	PERFORM							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8336	NASA DATA BASELINE NEW	[]							
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AND TRACK 8336 RMS ELBOW TVC CO	LOR LENS ASSY ZOOM	CONTROL							
LEAD ANALYST:	W.C. LONG									
ASSESSMENT:										
CRITICAL FLIGH		CY SCREENS	CIL ITEM							
HDW/FU		В С	2.2							
NASA [/ IOA [3 /2R] [] [.] [P] [P] [P]	[] *							
COMPARE [N /N	ן (א) (N] [N]	[]							
RECOMMENDATIONS:	(If different	from NASA)								
[3 /2R	[P] [P] [P]	[ADD/DELETE)							
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []										
REMARKS: NO COUNTERPART NASA CCTV FMEA. LOSS OF ALL CAPABILITY TO PERFORM THIS FUNCTION COULD RESULT IN LOSS OF MISSION.										

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:			NASA DA BASEL:	
	COMM AND TRAC 8337 RMS ELBOW TVC		NS ASSY IR	IS CONTROL
LEAD ANALYST:	W.C. LONG			
ASSESSMENT:				
CRITICAL: FLIGHT	ITY REDUN	DANCY SCRI	EENS	CIL ITEM
HDW/FU		В	С	IIBM
NASA [/ IOA [3 /2R] []] [P]	[] [P]	[] [P]	[] *
COMPARE [N /N] [N]	[N]	[N]	
RECOMMENDATIONS:	(If differe	ent from NA	ASA)	
[3 /2R] [P]	[P]	[P]	[] (ADD/DELETE)
* CIL RETENTION F	RATIONALE: (If	applicabl	le) ADEQUAT	
REMARKS: NO COUNTERPART NA THIS FUNCTION COU				LITY TO PERFORM

F FILE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	•	NASA D BASEI	DATA: LINE [] NEW []						
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AND TRAC 8338 RMS ELBOW TVC	RIS CONTROL							
LEAD ANALYST:	W.C. LONG								
ASSESSMENT:									
CRITICAL	CIL ITEM								
FLIGH HDW/FU		ВС	·						
NASA [/ IOA [3 /2F	[P]	[] [] [P] [P]	[] *						
COMPARE [N /N] [N]	[и] [и]	[]						
RECOMMENDATIONS:	(If differe	ent from NASA)							
[3 /2F	[P]	[P] [P]	[] (ADD/DELETE)						
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []									
REMARKS: NO COUNTERPART NASA CCTV FMEA. LOSS OF ALL CAPABILITY TO PERFORM THIS FUNCTION COULD RESULT IN LOSS OF MISSION.									

ASSESSMENT DATE: 3/05/88 ASSESSMENT ID: COMTRK-8339 NASA FMEA #:								NASA DATA: BASELINE [] NEW []						
SUBSYSTI MDAC ID: ITEM: SWITCH				833	MM AND 39 DECK			LEN	NS ASS	Y FC	cus (CON	TROL	
LEAD ANALYST: W.C. LONG														
ASSESSMI	ENT	:												
CRITICALITY REDUNDANCY FLIGHT								SCREENS					CIL ITEM	
]		W/FU		A	1	В		C					
NASA IOA	[[3	/3]	[]	[]]]		[]*	
COMPARE	[N	/N]	Ī]	Ţ]	[]		[] .	
RECOMMEN	VDĄ!	ric	ONS:	((If dif	fere	ent fr	om N	NASA)					
	[/ ·].	[]]	[]	(Al	[DD/I] DELETE)	
* CIL RI	ETE	YT:	ION	RATI	ONALE:	(If	appl:	icab	A	DEQU	ATE ATE	. []	
REMARKS:		PAI	RT N	ASA	CCTV F	MEA.	NOT	CRI	TICAL	1.				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-834	NASA DATA: BASELINE [] NEW []							
	COMM AND T 8340 FLT DECK T		LENS A	SSY FOCUS	CONT	ROL			
LEAD ANALYST:									
ASSESSMENT:									
CRITICALI FLIGHT	IS	CIL ITE							
HDW/FUN	ic A	В		С					
NASA [/ IOA [3 /3] [] [] []	[] *			
COMPARE [N /N] [] [] []	[] .			
RECOMMENDATIONS:	(If diff	ferent fro	om NASA	٧)					
[/] [] [] [.]	[(ADD/D] ELETE			
* CIL RETENTION F]	ADEQUATI ITAUQEDANI					
NO COUNTERPART NA	NO COUNTERPART NASA CCTV FMEA. NOT CRITICAL.								

ASSESSME	SSESSMENT DATE: 3/05/88 SSESSMENT ID: COMTRK-8341 ASA FMEA #:							NASA DATA: BASELINE [] NEW []					
SUBSYSTEMDAC ID:	M:		8341	FLT DECK TVC COLOR				ASS	SY ZOOM	CONTR	OL :	SWITCH	
LEAD ANA	LYST	:	W.C.	LONG	;								
ASSESSME	NT:												
CRITICALITY REDUNDANCY FLIGHT								NCY SCREENS CIL ITEM					
		W/FU		A	A B			C	5 4	TTEM			
NASA IOA	[3	/3]	[[]	[]	[]	[]	*	
COMPARE	[]	/N]	[.]	[]	Ţ]	[]		
RECOMMEN	DATI	ons:	(If	dif	fere	nt fr	om NA	SA)		•			
	[/]	[1	[]	[]	[(ADD/D] ELE:	ΓE)	
* CIL RE	TENT	ION I	RATION	ALE:	(If	appl	icabl.	P	ADEQUATI]	= .	
NO COUNTY	גממים	DO N	3 C A C C	יחיני ב	MEX	MOT	יידם י	TCXT					

ASSESSME ASSESSME NASA FME	NT I			5/88 TRK-834	42		NASA DATA: BASELINE [] NEW []					
SUBSYSTE MDAC ID: ITEM:	M:		834	M AND 1 2 DECK 1			LENS	ASSY	ZOOM	CONTR	OL S	WITCH
LEAD ANALYST: W.C. LONG												
ASSESSME	NT:											
	F	ICAL LIGH W/FU	T	R) A	EDUN	DANCY B	SCRE	ENS C		CIL		
NASA IOA	[3	/3]]]	[]	[]	[] *	
COMPARE	[и	/N]	[]	[]	[]	[]	
RECOMMEN	DATI	ons:	(If dif	fere	nt fr	om NA	SA)				
	[/]	[]	[]	(]	[(ADD/D] ELET	E)
* CIL RE	TENT	ION	RATI	ONALE:	(If	appl	icabl	AD	EQUATI EQUATI]	

NO COUNTERPART NASA CCTV FMEA. NOT CRITICAL.

ASSESSME ASSESSME NASA FME	3/05 COMI	43			N	IASA DA' BASELII N]				
SUBSYSTEMDAC ID:	M:		8343				LENS	ASS	SY IRIS	CONTE	OL:	SWITCH
LEAD ANA	EAD ANALYST: W.C. LONG											
ASSESSME	NT:											
•		ICAL LIGH	ITY	R	SCRE	ENS		CII				
		W/FU		A	•	В	1	C	2	111	11-1	
NASA IOA	[3	/ /3]	[]	[]	[[]	[[]	*
COMPARE	[N	/N]	[]	[]	[]	[]	
RECOMMEN	DATI	ons:	(1	f dif	fere	nt fr	om NA	SA)				
	Ţ	/]	[]	ľ]	[]	[(ADD/I) DELE	ΓE)
* CIL RE	TENT	ION :	RATIC	NALE:	(If	appl	icabl	A	DEQUATI]	
REMARKS:	FDDA	וא ידים	ASA C	ין עייטי	MEA.	иот	CRIT			•	•	

ASSESSMENT DAY ASSESSMENT ID NASA FMEA #:		/88 RK-8344			NASA DATA: BASELINE [] NEW []						
SUBSYSTEM: MDAC ID: ITEM:	8344	COMM AND TRACK 8344 FLT DECK TVC COLOR LENS ASSY IRIS						OL SW	ITCH		
LEAD ANALYST:	W.C.	LONG									
ASSESSMENT:											
	ALITY GHT	REDU	SCR	EENS		CIL					
	FUNC	A	F	3	C	:					
NASA [3]	[]	[]	[]	[] *			
COMPARE [N	и ј	[]	[]	[]	[]			
RECOMMENDATIO	s: (I	f differ	ent fi	com N	ASA)						
[.	1	[]	[]	[]	[(ADD/D] ELETE	E)		
REMARKS:											
NO COUNTERPAR	'NASA C	CTV FME	COM .	r CRI	TICAL	٠ لـ					

ASSESSMENT DATE: 3/05/88 ASSESSMENT ID: COMTRK-8345 NASA FMEA #:									N		DATA LINE NEW	[]	
SUBSYSTE MDAC ID: ITEM: SWITCH	M:			834	M AND 1 5 DECK 1			LEN	S ASS	SY FO	cus	CONT	TROL	
LEAD ANA	LY	ST	:	W.C	. LONG									
ASSESSME	NT	:												
CRITICALITY REDUNDANCY FLIGHT								SCR	EENS			CIL ITEM		
	1	-	W/FU		A	A		С		:				
NASA IOA]	3	/3]	[]	[]	[]		[] *]	
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	DA'	TI	ons:	(If dif	fere	ent fro	om N	ASA)					
	[/]	[]	[]	[]	(A	[DD/I] DELETE)	
* CIL RE	TE:	NT:	ION	RATI	ONALE:	(Ii	appl	icab	P	DEQU	ATE ATE]]	
REMARKS:	ER	PA:	RT N	ASA	CCTV FI	ÆA.	NOT	CRI	TICAI					

ASSESSME ASSESSME NASA FME	NT ID:	3/05/8 COMTRI					ASA DATA BASELIN NE]	
SUBSYSTE MDAC ID: ITEM: SWITCH	M:	COMM A 8346 MID DI				LENS	ASS	Y FOCUS	CONT	T ROL
LEAD ANA	LYST:	W.C. 1	LONG							
ASSESSME	NT:									
		CI								
	FLIGH HDW/FU		A		В		С			
NASA IOA	[/ / 3]	[[]	[]	[]	[] *]
COMPARE	[N /N]	[]	[]	[]	[]
RECOMMEN	DATIONS:	(If	dif	fere	nt fr	om NA	SA)			
	[/]	[]	[]	[] ([ADD/1] DELETE
* CIL RE	TENTION	RATION	ALE:	(If	appl.	icabl	Α	DEQUATE DEQUATE]
	ERPART N	ASA CC	rv F	MEA.	NOT	CRIT	ICAL			

ASSESSM ASSESSM NASA FM		3/05/88 COMTRK-					SA DAT ASELIN NE]
SUBSYST MDAC ID ITEM:		COMM AN 8347 MID DEC			LENS	ASSY	ZOOM	CONTR	OL SWITCH
LEAD AN	ALYST:	W.C. LO	NG						
ASSESSM	ENT:								
	CRITICAL FLIGH		REDUND	ANCY	SCREE	ens		CIL	
	HDW/FU		A	В		С			••
NASA IOA	[3 /3] []	[]	[)]	[] *
COMPARE	[N /N] []	[]	[]	[]
RECOMME	NDATIONS:	(If d	ifferen	t fro	m NAS	SA)			
	[/] []	[] ·	[] ([ADD/D] ELETE)
* CIL RI	ETENTION 1	RATIONAL	E: (If	appli	.cable	AD	EQUATE EQUATE]

NO COUNTERPART NASA CCTV FMEA. NOT CRITICAL.

ASSESSMEN ASSESSMEN NASA FMEA	T I		3/05/ COMTR		48				SA DAT ASELIN NI]		
SUBSYSTEM MDAC ID: ITEM:	:		COMM 8348 MID D				LENS	ASSY	ZOOM	CON	TROL	SWITCH	
LEAD ANAL	YST	:	W.C.	LONG	}								
ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM													
		W/FU		A		В		С		_			
NASA IOA	[3	/3]]]	[]	[]	[]	*	
COMPARE	[N	/N]	[]	[]	Ε]	[]		
RECOMMEND	ATI	ons:	(If	dif	fere	nt fr	om NA	SA)					
	[/]	[]	[]	[]] ADE)	DEL	ETE)	
* CIL RET	ENT	ION	RATION	IALE:	(If	appl	icabl	AΓ	EQUAT	_]		
REMARKS:	ERPA	RT N	ASA C	TV I	MEA.	пот	CRIT	ICAL.					

ASSESSME ASSESSME NASA FME	NT I	D:	•	/88 RK-8:	349				NASA D BASEL]		
SUBSYSTE MDAC ID: ITEM:			COMM 8349 MID				LEN	S AS	SY IRI	S CONTI	ROL	SWITCH	ī
LEAD ANA	LYST	:	W.C.	LONG	3								
ASSESSME	NT:												
		'ICAL 'LIGH		1	REDUN	IDANCY	SCR	EENS		CII ITI	_		
		W/FU		1	Ą	В		(C	111	21-1		
NASA IOA	[3	/3]	[]	[]	[]	[[]	*	
COMPARE	[N	/N]	Ĺ]	[]	[]	[]		
RECOMMEN	DATI	ons:	(I	f di	fere	nt fr	om N	ASA)					
	[/]	[]	Ι]	[]	[(ADD/I) DELE	TE)	
* CIL RE	TENT	ION	RATIO	NALE:	(If	appl:	icab	7	ADEQUAT]		
NO COUNTY	ו מומים	क्रम अर	101 C	OMY T	A CENE	MOM	ODIT	DIAL					

ASSESSME ASSESSME NASA FME	NT :	ID:		5/88 TRK-83!	50				ASA DA BASELI N		[]	- ····••
SUBSYSTE MDAC ID:			835	M AND TO O DECK T			LENS	S ASS	Y IRIS	co	NTRO	L	SWITCH
LEAD ANA	LYS	T:	W.C	. LONG									
ASSESSME	NT:												
		TICAL FLIGH		R	EDUNI	DANCY	SCRI	EENS			CIL ITEM	ī	
		DW/FU		A		В		С					
NASA IOA	[3 /3]	[]	[]]]]]	*
COMPARE	[]	n /n]	[]	[1	[]		[]	
RECOMMEN	DAT:	ions:	(If dif	fere	nt fro	om N2	ASA)					
	[/]	[]	[]	[]	(AE	[D/DE] :LE	TE)
* CIL RE		TION	RATI	ONALE:	(If	appl:	icab]	A	DEQUAT DEQUAT]]	

NO COUNTERPART NASA CCTV FMEA. NOT CRITICAL.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		DATA: LINE NEW	[]							
MDAC ID:	COMM AND 8351 FLT DECK	4 . 4	INDEF	R MONI	TOR	PWR	SW				
LEAD ANALYST:	W.C. LONG										
ASSESSMENT:									· ·		
CRITICALITY REDUNDANCY SCREENS C FLIGHT I HDW/FUNC A B C											
nDW/ FOI	NC A	****	Б		C						
NASA [/ IOA [3 /3] []	[]	[]		[] *]		
COMPARE [N /N] []	[]	[]		[]		
RECOMMENDATIONS:	(If dif	ferent	t fro	m NAS	A)						
/	1, []	_[]	[]	(AI	[DD/DI] ELETI	E)	
* CIL RETENTION I		·			AI INAI		ATE ATE	[]		
NO COUNTERPART N	ASA CCTV F	MEA.	TOM	CRITI	CAL	•					

ASSESSMEN ASSESSMEN NASA FME	T	II			05/88 MTRK-835	52			Ŋ	BASE	LINE NEW	[]
SUBSYSTEM MDAC ID:	M:			83	MM AND 1 52 I DECK V			MC	NITOF	R PWR	SW		
LEAD ANA	LYS	ST	:	W.	c. Long								
ASSESSME	T	:											
(CR:		ICAL LIGH		RE	EDUN	IDANCY	SCR	EENS			CIL	
	1		W/FU		A		В		C	2			••
NASA IOA	[3	/3]	[[]] []	[]		[] *]
COMPARE	[N	/N]	[]	[]	[]		[]
RECOMMEN	DA!	rI(ONS:		(If difi	fere	ent fro	m N	IASA)				
	[/]	[]	ŗ]	- []	(AI	[DD/D] ELETE)
* CIL RE	ΓE	NT:	ION	RAT	IONALE:	(If	appli	cak	1	ADEQU ADEQU		[]
REMARKS:	ER:	PA:	RT N	ASA	CCTV FI	ÆA.	NOT	CRI				•	-

ASSESSME	NT	D	ATE:	3/0	05/88				1	IASA	DATA	:		
ASSESSME NASA FME			D:	CON	TTRK-83	53	BASE	LINE	[]	-			
SUBSYSTE MDAC ID: ITEM:	M:			835	MM AND 1 53 D DECK 1			R MC	опітог	R PWR	: SW			
LEAD ANA	LY	ST	:	W.C	c. LONG									
ASSESSME	NT	:												
	CR:		ICAL LIGH		RI	EDUI	NDANCY	SCI	REENS			CII	_	
	1	_	W/FU		A	-								
NASA IOA	[3	/ /3]	[[]]]	[[]		[]	*
COMPARE	ſ	N	/N	J	[]	[]	[]		[]	
RECOMMEN	DA!	rI	ons:	((If diff	fere	ent fro	om N	NASA)					
	Į		/]	ί]	. []	[]	(AI	[D/I] DELE	ΓE)
* CIL RE	TEI	NT:	ION	RATI	ONALE:	(If	f appl:	icak	A	.DEQU .DEQU		[]	
REMARKS:	ER	PA]	RT N	ASA	CCTV FN	ſΕA.	TON	CRI	TICAL	1•				

ASSESSME ASSESSME NASA FME		COMTR		54				ELINE NEW	[]	
SUBSYSTE MDAC ID:		COMM 2 8354 MID D				R MONI	TOR PWI	R SW			
LEAD ANA	LYST:	W.C.	LONG								
ASSESSME	INT:										
	CRITICAL FLIGH		RI	EDUNI	DANCY	SCREE	ns		CIL		
	HDW/FU		A		В		С				
NASA IOA	[/]]	[]	[]	[]		[]	*
COMPARE	[N /N]	[]	[]	[]		[]	
RECOMMEN	DATIONS:	(If	dif	fere	nt fro	om NAS	SA)				
	[/]	[]	[]	[]	(A)	[DD/D	ELI	ETE]
* CIL RI	ETENTION	RATION	ALE:	(If	appl	icable	e) ADEQI INADEQI		[]	
REMARKS:	: TERPART N	IASA CC	TV F	MEA.	not	CRITI	CAL.				

ASSESSME ASSESSME NASA FME	NT	I		•	05/88 MTRK-83	55			N		DATA LINE NEW	[]	
SUBSYSTE MDAC ID:	м:			835	MM AND			R MC	NITOF	PEA	AK SW			
LEAD ANA	LY	ST	:	w.c	. LONG									
ASSESSME	NT	:												
	CR:		ICAL LIGH		R	EDUI	NDANCY	SCR	REENS			CII		
	1	_	W/FU											
NASA IOA	[3	/ /3]	[[]	[]	[]		[] ;	*
COMPARE	ľ	N	/N]	[]	[]	[]		[)	
RECOMMEN	DA:	ΓI	ons:	(If dif	fere	ent fr	om N	(ASA)					
	[/]	[]	[]	[]	(Al	[DD/E] ELET	ſE)
* CIL RE	TEI	VT:	ION :	RATI	ONALE:	(If	f appl	icab	A	DEQU DEQU	ATE ATE	[]	
REMARKS:	ERI	PAI	RT N	ASA	CCTV FI	MEA.	NOT	CRI	TICAL	•				

ASSESSME ASSESSME NASA FME	NT ID:			56				ASA DAT BASELIN NI		[]	
SUBSYSTEMDAC ID:	M:	COMM A 8356 FLT D				R MON	[TOR	PEAK S	SW			
LEAD ANA	LYST:	W.C. :	LONG									
ASSESSME	NT:											
	CRITICAL FLIGH		RI	EDUNI	DANCY	SCRE	ENS			CIL	м	
	HDW/FU											
NASA IOA	[/ / 3]	[[]	[[]	[]		[] *	
COMPARE	[N /N	ĵ	[]	[]	[]		[]	
RECOMMEN	DATIONS:	(If	dif	ferei	nt fro	om NA	SA)					
	[/]	[]	[]	[]	(AI	[D/D] ELET	E,
* CIL RE	TENTION	RATION	ALE:	(If	appl	icabl	e) A	DEQUAT	E	[]	
REMARKS:							INA	DEQUAT		į	j	
NA CATTITE	TODANO I	13C3 CC	וים לאח	urto X	$\mathbf{x} \cap \mathbf{r}$		ICAT					

ASSESSME ASSESSME NASA FME	NT	I			05/88 MTRK-83	57			ı		DATA LINE NEW	[]
SUBSYSTE MDAC ID:				835	MM AND 1 57 D DECK 1						K SW		
LEAD ANA	LY	ST	:	W.C	. LONG								
ASSESSME	NT	:											
1	CR:		ICAL		R	EDUI	NDANCY	SCR	EENS			CII	
	1		LIGH W/FU		A		. В		C	:		ITI	LM
NASA IOA	[3	/ /3]] []]]	[]		[] *
COMPARE	ſ	N	/N]	Ę]	[]	[]		[]
RECOMMEN	DA:	ri	ons:	(If dif	fere	ent fr	om N	ASA)				
and and	ָנ		/]	ľ]	[]	[]	(Al	-] DELETE)
* CIL RE	TEI	nt:	ION :	RATI	ONALE:	(If	appl	icab	À	DEQU DEQU	ATE ATE	[]
REMARKS:	ERI	PAI	RT N	ASA	CCTV FI	ÆA.	TON	CRI	TICAL				

ASSESSMENT D ASSESSMENT I NASA FMEA #:	-	05/88 MTRK-8358			SA DATA ASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	83	MM AND TRA 58 D DECK VIE	PEAK SW				
LEAD ANALYST	: W.	C. LONG					
ASSESSMENT:							
	ICALITY LIGHT	REDU	NDANCY S	CREENS		CII	
	W/FUNC	A	В	С			
NASA [IOA [3	/ ₃]	[]	[]] []]] *]
COMPARE [N	/N]	[]	[]	[]	[]
RECOMMENDATI	ons:	(If differ	ent from	NASA)			
1	/ 1	[]	[-]] (A	[DD/I] DELETE)
* CIL RETENT	ION RAT	IONALE: (I	f applic	AD	EQUATE EQUATE	[]
NO COUNTERPA	RT NASA	CCTV FMEA	. NOT C	RITICAL.			

ASSESSME ASSESSME NASA FME	NT	ID:	3/05/6 COMTRI					ASA DA BASELI N		[]	
SUBSYSTEMDAC ID: ITEM: CONTRAST						INDEI	R MON	ITOR	BRIGH	ITNE	ISS 1	AND
LEAD ANA	LYS'	T:	W.C. 1	LONG								
ASSESSME	NT:											
•		TICAL: FLIGH		RI	EDUNDA	ANCY	SCRE	ENS			CIL	
		DW/FUI	_	A		В		С				•
NASA IOA	[3 /3]	[] -	[]	[]		[] *
COMPARE	[]	N /N	1	[]	[]	[]		[]
RECOMMEN	DAT:	ions:	(If	diff	erent	t fro	om NAS	SA)				
	[/]	[]	[]	[]	(AD	[D/DI] ELETE)
* CIL RE	TEN'	rion 1	RATION	ALE:	(If a	appl	icable	A	DEQUAT DEQUAT		[]
REMARKS:	ERP	ART N	ASA CC	rv fn	ſEA.	NOT	CRIT	ICAL	•			

ASSESSMENT DA ASSESSMENT IC NASA FMEA #:		88 K-8360			NASA DA BASELI]
SUBSYSTEM: MDAC ID: ITEM: CONTRAST CONT	8360 FLT D	AND TR		R MONIT	OR BRIG	HTNESS	AND
LEAD ANALYST:	W.C.	LONG					
ASSESSMENT:							
FI	CALITY LIGHT I/FUNC	RED A	undancy B	SCREE	rs C	CI: IT:	
NASA [IOA [3	/] /3]	[]	[]	[]]] *
COMPARE [N	/N]	[]	[]	[]	[]
RECOMMENDATIO	ons: (If	diffe	rent fr	om NAS	A)		
[/ 1	[]	[]	[]	(ADD/	·] DELETE
* CIL RETENT				;	ADEQUA INADEQUA	-]
NO COUNTERPAL	RT NASA CO	CTV FME	A. NOT	CRITI	CAL.		

ASSESSME ASSESSME NASA FME				N	IASA DA BASELI 1		[]			
SUBSYSTE MDAC ID: ITEM: CONTRAST		R MON	ITOR	BRIG	HTNI	ESS	AND				
LEAD ANA	LYST:	W.C. I	ONG								
ASSESSME	NT:										
	CRITICAL		RE	DUND	ANCY	SCRE	ENS			CII	
	FLIGH HDW/FU		A		В		С		ITE	iM	
NASA IOA	[3 /3	j]	[]	[]	[] .		[] *]
COMPARE	[N /N]	[]	[]	[]		[]
RECOMMEN	DATIONS:	(If	diff	erent	fro	om NA	SA)				,
	[/]	[]	[]	[]	(AI	[D/D] ELETE)
* CIL RE	TENTION 1	RATIONA	LE:	(If a	appli	cable	A	DEQUAT DEQUAT		[]
NO COUNT	ERPART N	ASA CCT	V FM	EA.	NOT	CRIT	CAL	.1 _. 3 •			

ASSESSMEI ASSESSMEI NASA FMEI	NT ID:	3/05/8 COMTRE		52				BASELINI NE	E []
SUBSYSTEMDAC ID: ITEM: CONTRAST						R MONI	[TOR	BRIGHT	NESS	AND
LEAD ANA	LYST:	W.C. I	LONG							
ASSESSME	NT:									
	CRITICAL		RI	EDUND	ANCY	SCRE	ENS		CII	
	FLIGH HDW/FU		A		В		С		J. 1	
NASA IOA	[/ / 3]	[]	[]	[]	[] *
COMPARE	[N /N	1	[]	[]	[]	. []
RECOMMEN	DATIONS:	(If	dif:	feren	t fr	om NA	SA)			
	[/	·]	[1	[]	[] ([ADD/1] DELETE
	TENTION	RATION	ALE:	(If	appl	icabl	A	DEQUATE DEQUATE]
REMARKS:	ERPART N	ASA CC	rv F	MEA.	NOT	CRIT	ICAL	•		

ASSESSMENT DAT ASSESSMENT ID: NASA FMEA #:		3363		NASA DATA: BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8363 CONSOLE	TRACK MONITOR	PWR SW		
LEAD ANALYST:	W.C. LO	NG			
ASSESSMENT:					
	CALITY CGHT	REDUNDANG	CY SCREENS		CIL ITEM
HDW/	FUNC	A	B	C	
NASA [/ IOA [2 /] [1R] [p] [P] [P]	[] * [X]
COMPARE [N /	(N) [и] [N] [n]	[N]
RECOMMENDATION	S: (If d	ifferent i	from NASA)	·	
[2 /	1R] [P] [P] [[A] D/DELETE)
* CIL RETENTIC	N RATIONALI	E: (If app	· · · · · · · · · · · · · · · · · · ·	ADEQUATE ADEQUATE	[] 22 []
REMARKS: NO COUNTERPART PREVENT TV SCE CAPABILITY RES OF VEHICLE AND	NE VIEWING ULTING IN 1	AND TVC I	POINTING A	ND ADJUSTM	ENTS

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:				NASA DATA BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8364 CONSOLE		R PWR SW		
LEAD ANALYST:	W.C. LO	NG			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	ANCY SCREE	ns	CIL ITEM
HDW/FU		A	В	С	
NASA [/ IOA [2 /1R] [p]	[_P]	[] [P]	[x] *
COMPARE [N /N] [иј	[14]	[N]	[N]
RECOMMENDATIONS:	(If d	ifferen	t from NAS	A)	
[2 /1F	[P]	[P]	[P]	[A] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If	applicable	e) ADEQUATE INADEQUATE	[]
REMARKS: NO COUNTERPART NO PREVENT TV SCENE CAPABILITY RESULE OF VEHICLE AND CO	: VIEWING TING IN	AND TV	C POINTING	AND ADJUST	MENTS

ASSESSME ASSESSME NASA FME	NT	I		-	5/88 TRK-83	65		NASA DATA: BASELINE [] NEW []							
SUBSYSTE MDAC ID:				8365	I AND SOLE M										
LEAD ANA	LY	ST	:	W.C.	LONG										
ASSESSME	NT	:													
	CR				R	EDUI	NDANCY	SCR	REENS			CII			
	:		LIGH W/FU	NC	A		E	3	(-	ITE	5M			
NASA IOA	[3	/ /3]	[]	[]	[]		[] *]		
COMPARE	[N	/N]	[]	[]	[]		[]		
RECOMMEN	'DA'	ΓI	ons:	(I	f dif	fere	ent fr	om N	(ASA)						
	[/]	[]	[]	[]	(A] DELETE)		
* CIL RE	TE	NT.	ION :	RATIC	NALE:	(Ii	f appl	icab.	P	ADEQU ADEQU	JATE JATE	[]		
NO COUNT	ER	PA.	RT N	ASA C	CTV F	MEA.	ron.	CRI	TICAL						

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8	366				ASA DATA BASELINE NEW	: []
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8366 CONSOLE							
LEAD ANALYST:	W.C. LON							
ASSESSMENT:								
CRITICAL		REDUND	ANCY	SCRE	ENS		CII	
FLIGH HDW/FU	_	A	В		С			
NASA [/ IOA [3 /3] []	[[]	[]	[] *]
COMPARE [N /N] [1	[]	[]	[]
RECOMMENDATIONS:	(If di	fferen	t fr	om NAS	SA)			
[/] []	[.]	[] (2	[ADD/I] DELETE)
* CIL RETENTION REMARKS:	RATIONALE	: (If	appl	icable	A.	DEQUATE DEQUATE]
NO COUNTERPART N	ASA CCTV	FMEA.	NOT	CRIT	ICAL	•		

ASSESSMI ASSESSMI NASA FMI	ENT	I			5/88 TRK-83	67]		DATA: ELINE NEW	[]	
SUBSYSTI MDAC ID: ITEM:				836	M AND 7 SOLE M			NC S	W					
LEAD ANA	ALY.	ST	:	W.C	. LONG	ı								
ASSESSMI	ENT	:												
	CR			ITY	R	EDUN	IDANCY	SCR	EENS			CII		
	:		LIGH W/FU		A	ı	В	}	(2		ITE	iM	
NASA IOA	[3	/3]	[]	[]	[]]]	*
COMPARE	[N	/N]	[]	[]	[1	1]		[]	
RECOMMEN	IDA'	ΓI	ons:	(:	rf dif	fere	ent fr	om N	ASA)					
	[/]	[.]	[]	[.]	(AD	ĺ D/D] ELE	TE)
* CIL RI		NT:	ION	RATI(ONALE:	(If	appl	icab	7	ADEQU ADEQU		[]	
REMARKS:		PA	RT N	ASA (CCTV F	MEA.	NOT	CRI	TICAI					

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8368	NASA DATA BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	COMM AND TRACK 8368 CONSOLE MONITOR	SYNC SW	
LEAD ANALYST:	W.C. LONG		
ASSESSMENT:			
CRITICAL FLIGH	-	NCY SCREENS	CIL ITEM
HDW/FU	NC A	ВС	
NASA [/ IOA [2 /1R] []] [P]	[] [] [P] [P]	[] * [X]
COMPARE [N /N] [N]	[и] [и]	[N]
RECOMMENDATIONS:	(If different	from NASA)	
[2 /1R] [P]		[A] .DD/DELETE)
* CIL RETENTION	RATIONALE: (If a	pplicable) ADEQUATE INADEQUATE	
REMARKS: NO COUNTERPART N PREVENT TV SCENE	ASA CCTV FMEA. VIEWING AND POI	LOSS OF SECOND MONIT	OR COULD

RESULTING IN LOSS OF CCTV FUNCTION AND POSSIBLE LOSS OF VEHICLE

AND CREW.

ASSESSME ASSESSME NASA FME	ENT	II		_	05/8: MTRK		59				DATA LINE NEW	[]			
SUBSYSTE MDAC ID: ITEM:				83					ATA SW							
LEAD ANA	LYS	T:	:	W.	c. L	ONG										
ASSESSME	NT:	;														
	CRI		CAL LIGH			RI	EDUNI	DANCY	SCRE	EN:	S			CII		
	H		/FU			A		E	3		222.					
NASA IOA	[3	/ /3]		[]	[[]	[]		[[]	*
COMPARE	[N	/N]	İ	[]	[]	[N	1		[j	
RECOMMEN	DAT	'IC	ns:		(If o	liff	erer	nt fr	om NA	SA)					
	[/]	([]	[]	[]	(AI	[DD/E] ELE	TE)
* CIL RE	TEN	ΙΤΊ	ON I	RAT	IONAI	LE:	(If	appl	icabl				ATE ATE	[]	
REMARKS:	ERP	AF	אידי או	ASA	CCTT	7 FW	ŒΑ.	иот	י כפדים			_		Ĺ	J	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-81	370		_	ASA DATA BASELINE NEV] :]			
SUBSYSTEM: MDAC ID: ITEM:	8370	OMM AND TRACK 370 ONSOLE MONITOR DATA SW								
LEAD ANALYST:	W.C. LONG	.c. Long								
ASSESSMENT:										
CRITICAL FLIGH		REDUND	ANCY	SCRE	ENS		CII ITE			
HDW/FU		A	В		С			- -		
NASA [/ IOA [3 /3] []	[]	[]	[] *		
COMPARE [N /N] []	[]	[N]	. []		
RECOMMENDATIONS:	(If di	fferen	t fr	om NA	SA)					
(/	.] [j		1	[] (2	[ADD/I] ELETE)		
* CIL RETENTION	RATIONALE	: (If	appl	icabl	A	DEQUATE DEQUATE	_]		
REMARKS: NO COUNTERPART N	ASA CCTV	FMEA.	пот	CRIT	ICAL					

ASSES ASSES NASA	SME	NT	I			5/88 TRK-83			DATA: ELINE NEW	[]				
SUBSY MDAC ITEM:	ID:	M:			837	COMM AND TRACK 8371 CONSOLE MONITOR SCAN SW									
LEAD	ANA:	LY	ST	:	W.C	.c. Long									
ASSES	SME	NT	:												
	(CR:			ITY	R	EDUN	IDANCY	SCF	REENS			CI		
		1		LIGH W/FU	-	A		E	3		C .		IT	EM	
NA I	SA OA	[3	/3]	[]	[]	[]		[]]	*
COMPA	RE	[N	/N]	[]	[]	[N]		[]	
RECOM	MEN	DA!	ric	ons:	(If dif	fere	ent fr	om N	(ASA					
		[,	/] ′	ι.	j	[]	[]] DELE	TE)
* CIL		ΓEI	NT:	ION	RATI(ONALE:	(If	appl	icab		ADEQU ADEQU	ATE ATE	[]	
		וכוים	וגם	וא יחם	707	~~mv ==	wre a	MOT	CDI	TTCX	T				

ASSESSMENT D	ATE:	3/05/8	38				NASA DATA:							
ASSESSMENT I NASA FMEA #:		COMTRI		72				BASEL]	INE VEW	[]			
SUBSYSTEM: MDAC ID: ITEM:		COMM 2 8372 CONSO				an s	W							
LEAD ANALYST	:	W.C. 3	LONG											
ASSESSMENT:														
CRIT			R	EDUNI	DANCY	SCR	EENS			CIL				
_	LIGH W/FU		A		В	i	c	:		LILL	M			
NASA [IOA [3	/3]	[]	[]]]		[] ;	k		
COMPARE [N	/N]	[]	[3	[N]		[]			
RECOMMENDATI	ons:	(If	dif	fere	nt fr	om N	ASA)							
Ţ	/]	Į.]	[]	[]	(Al	[(D/D] ELE:	ΓE		
* CIL RETENT	ION	RATION	ALE:	(If	appl	icab	P	DEQUA'		[]			
REMARKS: NO COUNTERPA	RT N	asa cc	TV F	MEA.	гои	CRI	TICAL			ι	J			

ASSESSME ASSESSME NASA FME	NT	I			05/88 MTRK-83	373		NASA DATA: BASELINE [] NEW []						
SUBSYSTE MDAC ID: ITEM:				83	MM AND 73 NSOLE N			URCE	E SW					
LEAD ANA	LY	ST	:	W.(c. Lone	;								
ASSESSME	NT	:												
		F	ICAL LIGH	T			IDANCY	SCF				CII		
]	HD	W/FU	NC	A	Y	В		(2				
NASA IOA	[[3	/ /3]]]]]] []		[]	*
COMPARE	[N	/N]	. []	[]	[]	1]		[]	
RECOMMEN	DA'	ri(ons:	((If dif	fere	ent fro	om N	IASA)					
	[/]	[]	[]	[]	(AI	[DD/I] DELE	TE)
* CIL RE	TE	NT:	ION I	RATI	CONALE:	(If	appl:	icab	P		JATE JATE	[]	
NO COUNT	ER	PA	RT N	ASA	CCTV F	MEA.	NOT	CRI	TICAL					

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		8374		NASA DATA BASELINE NEW	[]				
	8374	COMM AND TRACK 8374 CONSOLE MONITOR SOURCE SW							
LEAD ANALYST:	W.C. LO	NG							
ASSESSMENT:									
CRITICAL FLIGH		REDUNDA	NCY SCREE	ins	CIL ITEM				
HDW/FU		A	В	С					
NASA [/ IOA [2 /1R] [P]	[] [P]	[] [P]	[x] *				
COMPARE [N /N] [n]	[N]	[и]	[N]				
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)					
. [2 /1R] [P]	[P]	[P] (A	[A] DD/DELETE)				
* CIL RETENTION	RATIONAL	E: (If a	applicable	e) ADEQUATE	[]				
D200 DUG -				INADEQUATE					
REMARKS: NO COUNTERPART N PREVENT TV SCENE RESULTING IN LOS	VIEWING	AND POI	INTING AND	ADJUSTMENT	S CAPABILITY				

AND CREW.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8	3375]		
SUBSYSTEM: MDAC ID: ITEM: SW	COMM ANI 8375 CONSOLE			GHTNE	ESS AND	CONTRA	ST CONTROL
LEAD ANALYST:	W.C. LON	IG					
ASSESSMENT:							
CRITICAL FLIGH HDW/FU	T	REDUND.	ANCY B	SCREE	ens C		IL TEM
NASA [/ IOA [3 /3] []	[]	[]]] *]
COMPARE [N /N] []	[]	[]	Ţ]
RECOMMENDATIONS:	(If di	fferen	t fro	m NAS	A)		
[/] []	[]	[]	(ADD)] /DELETE)
* CIL RETENTION	RATIONALE	: (If a			ADEQU	-]
REMARKS: NO COUNTERPART N	ASA CCTV	FMEA.		CRITI			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8376	NASA DATA: BASELINE [] NEW []	
SUBSYSTEM: MDAC ID: ITEM: SW	COMM AND TRACK 8376 CONSOLE MONITOR BRIGHT	NESS AND CONTRAST CO	NTROL
LEAD ANALYST:	W.C. LONG		
ASSESSMENT:			
CRITICAL FLIGH HDW/FU	T	REENS CIL ITEM C	
NASA [/ IOA [2 /1R] [] []] [P]	[p] [x]	*
COMPARE [N /N	ј [иј [иј	[N]	
RECOMMENDATIONS:	(If different from N	IASA) .	_
[2 /1R] [P] [P]	[P] [A] (ADD/DELE	TE)
* CIL RETENTION	RATIONALE: (If applicat	ole) ADEQUATE [] INADEQUATE []	
PREVENT TV SCENE	ASA CCTV FMEA. LOSS OF VIEWING AND TVC POINTITIONS IN LOSS OF CCTV FUREW.	ING AND ADJUSTMENTS	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-8501	NASA D BASEL	ATA: INE [X] NEW []							
	COMM AND TRA 8501 RCU 3A CIRCU	CK/EPD&C IT BREAKER (CB 37 &	CB 42)							
LEAD ANALYST: W.C. LONG										
ASSESSMENT:										
CRITICALI FLIGHT HDW/FUN	•	NDANCY SCREENS B C	CIL ITEM							
NASA [3 /2R IOA [2 /1R] [P]] [P]	[P] [P] [F] [P]	[x] *							
COMPARE [N /N] []	ן אן (אן	[N]							
RECOMMENDATIONS:	(If differ	ent from NASA)								
[/] []	[] [],	[.] (ADD/DELETE)							
* CIL RETENTION F	ATIONALE: (I	f applicable) ADEQUA' INADEQUA'								
REMARKS: SECOND FAILURE CO LOSS OF VEHICLE A		SS OF CCTV FUNCTION	WITH POTENTIAL							

ASSESSME ASSESSME NASA FME	NT :	ID:	COM	05/88 NASA DATA: DMTRK-8502 BASELINE [X] 5-6PK-20203-1 NEW []]						
SUBSYSTE MDAC ID: ITEM:			COM 850 RCU	2			-				R (C	В	37	& C	:B 4	42)			
LEAD ANA	LYS	T:	W.C	.c. Long															
ASSESSME	NT:																		
		TICAI FLIGI	łT	·				NC		SCF	REEN	s c				CI	L EM		
	н	DW/F	JNC		A				D			C							
NASA IOA		3 /21 3 /3		[[P]		[P]	[[P]			[]]	*
COMPARE	ľ	/N	3	[N]		[N]	(N]			[]	
RECOMMEN	DAT	ONS	: (If d	if:	fer	ent	: 1	fro	om 1	NASA	(۱							
	[3 /3]	[]		[]	(]		(A	[DD/	DE:		TE)
* CIL RE]	A NA		QUAT QUAT			x]	
FAILED C	LOS	ED W	OULD	ALLO	W :	NOR	MAI	٠ (P	ERA!	rioi	Ι.							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-85 05-6PK-20			NASA DATA: BASELINE [X] NEW []						
SUBSYSTEM: MDAC ID: ITEM:	8503	OMM AND TRACK/EPD&C 503 ON 3A CIRCUIT BREAKER (CB 38 & CB 4								
LEAD ANALYST:	W.C. LONG	.C. LONG								
ASSESSMENT:										
CRITICALI FLIGHT HDW/FUN	<u>.</u>		CY SCREE	ens C	CIL ITEM					
NASA [3 /2R IOA [2 /1R] [F] [P] P]	[P] [P]	[] *					
COMPARE [N /N] [] []	[]	[]					
RECOMMENDATIONS:	(If dif	ferent	from NAS	A)						
[/] [] [] .		[] DD/DELETE)					
* CIL RETENTION F	RATIONALE:	(If ap	plicable	-						
				ADEQUATE INADEQUATE	[X] []					
REMARKS: MONITORS NEEDED T CAUSE LOSS OF CCT CREW.										

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8504 05-6PK-20204-1	BA	SA DATA: ASELINE [X] NEW []
SUBSYSTEM: MDAC ID: ITEM:	COMM AND TRACK 8504 MON 3A CIRCUIT	/EPD&C BREAKER (CB 38	3 & CB 43)
LEAD ANALYST:	W.C. LONG	n e	in the second of the second o
ASSESSMENT:			
CRITICAI FLIGH HDW/FU	T	B C	CIL
NASA [3 /2F IOA [3 /3		[P] [P]	[] *
COMPARE [/N] [N]	[и] [и]	[]
RECOMMENDATIONS:	(If differen	t from NASA)	
[3 /3	1 " []	נוֹנוֹ נוֹ	[] (ADD/DELETE)
* CIL RETENTION REMARKS:	RATIONALE: (If	ADI	EQUATE [] EQUATE [X]
FAILED CLOSED WO	OULD ALLOW NORMA	L OPERATION.	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-8			NASA DATA: BASELINE [] NEW [X]					
	COMM AND 8505 CB 39 FV		(3A)						
LEAD ANALYST:	W.C. LOI	NG							
ASSESSMENT:									
CRITICAL: FLIGHT HDW/FUI	ens C	CIL ITEM							
·									
NASA [3 /3 IOA [2 /1R] [p]	[] [P]	[] [P]	[] * [X]				
COMPARE [N /N] [и ј	[и]	[и]	[N]				
RECOMMENDATIONS:	(If d	ifferen	t from NAS	SA)					
[2 /1R] [рј,	[P]		[A] DD/DELETE)				
* CIL RETENTION 1	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE [X]								
REMARKS: OPEN FAILURE COULD RESULT IN LOSS OF MISSION. LOSS OF ALL CAPABILITY TO PERFORM CCTV FUNCTION COULD RESULT IN LOSS OF VEHICLE AND CREW.									

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-850								
 	8506	COMM AND TRACK/EPD&C 506 CB 39 FWD BAY TVC & P/T (3A)							
LEAD ANALYST:	W.C. LONG								
ASSESSMENT:									
CRITICAL FLIGH	ITY RI	EDUNDAN	CY SCRE	ENS		CIL			
HDW/FU			В	C			•		
NASA [3 /3 IOA [3 /3] [] []	[]	[] *		
COMPARE [/] [] []	[1	[]		
RECOMMENDATIONS:	(If dif	ferent	from NA	SA)					
[/] [] [. 1	[] (A	[DD/D		E)	
* CIL RETENTION	RATIONALE:	(If ap	plicabl	ΑI	DEQUATE DEQUATE				
REMARKS: FAILED CLOSED RE AGREEMENT.	TAINS USE	OF TVC	AND CRI	TICAI	LITIES A	RE I	N		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-8 05-6PK-2	3507 20202-1		BASELINE [X] NEW []			
SUBSYSTEM: MDAC ID:	COMM AND	TRACK		3 A)			
LEAD ANALYST:	W.C. LON	IG					
ASSESSMENT:							
FLIGH'			NCY SCRE	ENS C	CIL		
NASA [3 /3 IOA [2 /1R] [P]	[] [P]	[] [P]	[] * [X]		
COMPARE [N /N] [n j	[N]	[N]	[N]		
RECOMMENDATIONS:	(If di	.fferent	from NAS	SA)			
[2 /1R] [Р].	[P]	[P]	[A] DD/DELETE		
* CIL RETENTION	RATIONALE	: (If a	pplicable	∍) ADEQUATE INADEQUATE	[] [x]		
REMARKS: ONE FAILURE COUL CAPABILITY TO PE VEHICLE AND CREW	RFORM CCI			CON. LOSS O	F ALL		

ASSESSME ASSESSME NASA FME	NT ID:	3/05/8 COMTRI 05-6PI	K-85		-		N	IASA DAT BASELIN NI]	
SUBSYSTE MDAC ID:	M:	COMM AND TRACK/EPD&C 8508 CB 40 FWD BAY TVC HTR (3A)									
LEAD ANALYST: W.C. LONG											
ASSESSME	NT:										
	CRITICAI FLIGH		R	EDUNI	DANCY	SCRI	EENS		CIL ITE		
	HDW/F		A		E	3	Ç				
NASA IOA	[3 /3 [3 /3]] []	[]	[]] [] *	
COMPARE	[/	1	[]	[]	[]	Γ]	
RECOMMEN	DATIONS	: (If	dif	fere	nt fi	om N	ASA)				
•	[· /]	[]	[3	Ţ	3] (ADD/D] ELETE)	
* CIL RE		RATION	ALE:	(If	app]	licab	1	ADEQUATI	-	(]	
REMARKS:	LOSED R				vc co	ONSID	ERING	THERM	OSTAT	CONTROL	

ASSESSMENT DATE:	•			NASA DATA:					
ASSESSMENT ID: NASA FMEA #:				BASELINE [X] NEW []					
SUBSYSTEM: MDAC ID: ITEM:	8509		EPD&C P/T HTR (3	BA)					
LEAD ANALYST:	W.C. LO	1G							
ASSESSMENT:									
CRITICAL FLIGH		REDUNDA	NCY SCREE	ens	CIL ITEM				
HDW/FU		A	B _.	С	1124				
NASA [3 /3 IOA [2 /1R] [P]	[] [P]	[] [P]	[x] *				
COMPARE [N /N] [ו א	[N]	[N]	[N]				
RECOMMENDATIONS:	(If di	ifferent	: from NAS	SA)					
. [2 /1R] [P]	[P]		[A] DD/DELETE				
* CIL RETENTION	RATIONALI	E: (If a	pplicable	ADEQUATE					
REMARKS: OPEN FAILURE COUT CAPABILITY TO PET VEHICLE AND CREW	RFORM CCT				OF ALL				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-85	3/05/88 NASA DATA: COMTRK-8510 BASELINE 05-6PK-20202-1 NEW								
SUBSYSTEM: MDAC ID: ITEM:	8510	COMM AND TRACK/EPD&C B510 CB 41 FWD BAY P/T HTR (3A)								
LEAD ANALYST:	EAD ANALYST: W.C. LONG									
ASSESSMENT:										
CRITICAL		REDUND	ANCY	SCRE	ENS		CIL ITE	w		
FLIGH HDW/FU		\	В		С		1111	••		
NASA [3 /3 IOA [3 /3] []	[]	[]	[] *		
COMPARE [/] []	[]	[]	[]		
RECOMMENDATIONS	(If dir	fferen	t fr	om NA	SA)					
[/] []	[]	[] (A	[\DD/D] ELETE)		
* CIL RETENTION	RATIONALE:	: (If	appl	icabl	A	DEQUATE]		
REMARKS: FAILED CLOSED RI OF HTR. CRITICA	ETAINS USE ALITIES AGI		c co	NSIDE	RING	THERMOS	TAT	CONTROL		

ASSESSMENT DATE:	3/05/88			NASA DATA	•		
ASSESSMENT ID:	COMTRK-	8511		BASELINE [X]			
ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	05-6PK-	20201-1		NEW	į		
SUBSYSTEM:	COMM AN	D TRACK/	'EPD&C				
		FT BAY T	TVC & P/T	(3A)			
LEAD ANALYST:	W.C. LO	NG					
ASSESSMENT:							
CRITICAL FLIGH		REDUNDA	NCY SCREI	ens	CIL ITEM		
HDW/FU		A	В	С			
NASA [3 /3 IOA [2 /1R] [P]	[] [P]	[] [P]	[x] *		
COMPARE [N /N] [и ј	[N]	[N]	[N]		
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)			
[2 /1R] [P]	[P]	[P] (AI	[A] DD/DELETE		
* CIL RETENTION	RATIONAL	E: (If a	pplicable	<u>)</u>			
				ADEQUATE INADEQUATE	[X]		
REMARKS:							
OPEN FAILURE COU CAPABILITY TO PE VEHICLE AND CREW	RFORM CC						

ASSESSMEI ASSESSMEI NASA FME	NT	ID:	C		-85]	12 201-1				ASA DAT BASELIN NE		x]	
SUBSYSTEM MDAC ID:			8	COMM AND TRACK/EPD&C B512 CB 34 AFT BAY TVC & P/T (3A)									
LEAD ANALYST: W.C. LONG													
ASSESSME	NT:												
,			ALIT	Y	RI	EDUND	ANCY	SCRE	ENS		CI	L	
		FLI DW/	FUNC	:	A		В		С				
NASA IOA	[3 / 3 /	3	<u> </u>	[]	[[]	[]]]	*
COMPARE	£	/	•		[]	[]	[1	[]	
RECOMMEN	DAT	'ION	s:	(If	dif	feren	t fr	om NA	SA)				
	[/	•	1	[1 .]]	[]] (ADD)	DEL/	ETE)
* CIL RE	TEN	TIO	n R	ATION <i>F</i>	ALE:	(If	appl	icabl	A	DEQUATI	-	x]	
REMARKS: FAILED C OF HTR.				AINS U			c co	NSIDE	RING	THERMO	STAT	r co	NTROL

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8 05-6PK-2	3513 20202 - 1		NASA DATA BASELINI NEV	E [X]
	8513		EPD&C VC HTR (3	A)	
LEAD ANALYST:	W.C. LON	īG			
ASSESSMENT:					
CRITICALI FLIGHT HDW/FUN			NCY SCREE	c C	CIL ITEM
NASA [3 /3 IOA [2 /1R] [P]	[] [P]	[] [P]	[] * [X]
COMPARE [N /N] [N]	[и]	[N]	[N]
RECOMMENDATIONS:	(If di	fferent	from NAS	A)	
[2 /1R] . [P]	[P]	[P]	[A] ADD/DELETE)
* CIL RETENTION R	ATIONALE	: (If a	pplicable) ADEQUATE INADEQUATE	[x]
REMARKS: OPEN FAILURE COUL CAPABILITY TO PER VEHICLE AND CREW.					

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-853 05-6PK-203					ASA DATA BASELINE NEW	[X]		
SUBSYSTEM: MDAC ID: ITEM:	8514	COMM AND TRACK/EPD&C 3514 CB 35 AFT BAY TVC HTR (3A)								
LEAD ANALYST: W.C. LONG										
ASSESSMENT:										
CRITICAL FLIGH		EDUNDA	NCY	SCREE	ns		CIL ITE	vf		
HDW/FU			В		С		T 1 2.	•		
NASA [3 /3 IOA [3 /3] []	[]	[]	[] *]		
COMPARE [/] [1	[]	[]	[]		
RECOMMENDATIONS:	(If dif	ferent	fro	m NAS	SA)					
[/] []	[]	[] (A	[.DD/D]] ELETE)		
* CIL RETENTION	RATIONALE:	(If a	ppli	.cable	A.	DEQUATE DEQUATE]		
REMARKS: FAILED CLOSED RE OF HTR. CRITICA	TAINS USE LITIES AGR		CON	SIDEF	RING	THERMOS	TAT	CONTROL		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-851	L5 202-1	NASA DATA BASELINE	
SUBSYSTEM:	COMM AND T			
LEAD ANALYST:	W.C. LONG			
ASSESSMENT:				
CRITICALI FLIGHT		EDUNDANCY SCR	EENS	CIL ITEM
HDW/FUN	IC A	В	С	
NASA [3 /3 IOA [2 /1R] [] [P] []] [P]	[] [P]	[
COMPARE [N /N	j [n] [n]	[N]	[и]
RECOMMENDATIONS:	(If diff	erent from N	ASA)	1.5
[2 /1R] [P] [P]		[A] DD/DELETE)
* CIL RETENTION R	RATIONALE:	(If applicab	le) ADEQUATE INADEQUATE	[]
REMARKS: OPEN FAILURE COUI CAPABILITY TO PER			SSION. LOSS	OF ALL

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-85 05-6PK-20				NASA DATA: BASELINE [X] NEW []				
	8516	COMM AND TRACK/EPD&C 8516 CB 36 AFT BAY P/T HTR (3A)							
LEAD ANALYST:	W.C. LONG								
ASSESSMENT:									
CRITICAL		EDUNDA	NCY	SCREE	ENS		CIL	w r	
FLIGH HDW/FU			В		С		1111	•	
NASA [3 /3 IOA [3 /3] []	[]	[[]]] *]	
COMPARE [/] []	[]	[]	[]	
RECOMMENDATIONS:	(If dif	ferent	fro	om NAS	5A)				
[/] []	[]	[] (A	[DD/D:] ELETE)	
* CIL RETENTION	RATIONALE:	(If a	appli	icable	Α	DEQUATE DEQUATE	_]	
REMARKS: FAILED CLOSED RE OF HTR. CRITICA	TAINS USE LITIES AGR		c coi	NSIDE	RING	THERMOS	TAT	CONTROI	

ASSESSMENT DAT ASSESSMENT ID: NASA FMEA #:	COMTRK-	8517		NASA DATA: BASELINE [X] NEW []				
SUBSYSTEM: MDAC ID: ITEM:	8517		EPD&C TVC & P/1	C (3A)				
LEAD ANALYST:	W.C. LO	NG						
ASSESSMENT:								
FLI	CALITY CGHT FUNC	REDUNDA A	NCY SCREE	ens C	CIL ITEM			
NASA [3 / IOA [2 /	/3] [/1R] [P]	[] [P]	[] [P]	[] *			
COMPARE [N /	ן מ' [N]	[N]	[N]	[]			
RECOMMENDATION	s: (If d	ifferent	from NAS	S A)	e grada i se este de la composición de			
[2 /	rir] [P]	[P]		[A] DD/DELETE)			
* CIL RETENTIO	N RATIONAL	E: (If a	pplicable	ADEQUATE INADEQUATE				
REMARKS: OPEN FAILURE C CAPABILITY TO VEHICLE AND CR	PERFORM CC			SION. LOSS	OF ALL			

ASSESSME ASSESSME NASA FME	NT ID:	3/05/8 COMTRE 05-6PE	(-85)									
SUBSYSTEMDAC ID:	M:	COMM A 8518 CB 45		•			т (3	A)				
LEAD ANALYST: W.C. LONG												
ASSESSME	NT:											
	CRITICAI FLIGH		R	EDUND	ANCY	SCRE	ENS		CII ITE			
	HDW/FU		A		В	;	С			•••		
NASA IOA	[3 /3 [3 /3]	[]	[]	[[]	[[] *]		
COMPARE	[/]	[1	[]	[]	[3		
RECOMMEN	DATIONS:	(If	dif	feren	t fr	om NA	SA)					
	[/]	[.]	C	1	[] .	[(ADD/I] DELETE)		
* CIL RE	TENTION	RATION	ALE:	(If	appl	icabl.	I	ADEQUAT ADEQUAT		(]		
	REMARKS: FAILED CLOSED RETAINS USE OF TVC CONSIDERING THERMOSTAT CONTROL OF HTD CRITICALITIES AGREE.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-8		NASA DATA BASELINE NEW	[X]					
	8519	COMM AND TRACK/EPD&C 8519 CB 46 KEEL/EVA TVC HTR (3A)							
LEAD ANALYST: W.C. LONG									
ASSESSMENT:									
CRITICAL: FLIGHT	CIL ITEM								
HDW/FUI		A	В	С	IIIM				
NASA [3 /3 IOA [2 /1R] [] P]	[] [P]	[] [P]	[x] *				
COMPARE [N /N] [N]	[N]	[N]	[N]				
RECOMMENDATIONS:	(If di	.fferent	from NAS	SA)					
[2 /1R] [P]	[P]		[A] DD/DELETE)				
* CIL RETENTION I	RATIONALE	: (If a	npplicable	e) ADEQUATE INADEQUATE	[]				
	EMARKS: PEN FAILURE COULD RESULT IN LOSS OF MISSION. LOSS OF ALL APABILITY TO PERFORM CCTV FUNCTION COULD RESULT IN LOSS OF								

ASSESSME ASSESSME NASA FME	NT ID:	COMTR	0/05/88 NASA DATA: COMTRK-8520 BASELINE [X] 05-6PK-20202-1 NEW []									
SUBSYSTEMDAC ID:	M:	8520	DMM AND TRACK/EPD&C 520 B 46 KEEL/EVA TVC HTR (3A)									
LEAD ANA	LYST:	W.C.	.C. LONG									
ASSESSMENT:												
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM												
		UNC					(2	111	iri		
NASA IOA	[3 /3 [3 /3]	[.]	[]	[[]	[] *]		
COMPARE	[/	1	[]	[]	[]	[]		
RECOMMEN	DATIONS	: (If	dif	fere	nt fr	om N	ASA)					
	[/]	[]	[] .	[1	[(ADD/I] DELETE)		
	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [X] INADEQUATE []											
REMARKS: FAILED C OF HTR.	FAILED CLOSED RETAINS USE OF TVC CONSIDERING THERMOSTAT CONTROL											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-		NASA DATA: BASELINE NEW	[X]	
SUBSYSTEM: MDAC ID: ITEM:	8521	•	EPD&C P/T HTR ((3A)	
LEAD ANALYST:	W.C. LOI	NG			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	ens	CIL ITEM
FLIGHT HDW/FUN		A	В	C	IIIM
NASA [3 /3 IOA [2 /1R] [p]	[] [P]	[] [P]	[x] *
COMPARE [N /N] [N]	[и]	[и]	[N]
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)	
[2 /1R] [Р] .	[P]	[P] (AI	[A] DD/DELETE)
* CIL RETENTION F	RATIONAL	E: (If a	pplicable	ADEQUATE INADEQUATE	
REMARKS: OPEN FAILURE COUL CAPABILITY TO PER VEHICLE AND CREW	RFORM CC			SION. LOSS (OF ALL

REPORT DATE 03/18/88 C-1490

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	COMTRK-85	3/05/88 NASA DATA COMTRK-8522 BASELINE 05-6PK-20202-1 NEW								
SUBSYSTEM: MDAC ID: ITEM:	8522	COMM AND TRACK/EPD&C 8522 CB 47 KEEL/EVA P/T HTR (3A)								
LEAD ANALYST:	W.C. LONG	I.C. LONG								
ASSESSMENT:										
CRITICA	CIL	wr								
FLIG HDW/F		_				G C				
NASA [3 /3 IOA [3 /3] []	[]	[]	[] *		
COMPARE [/] []	[]	[]	[]		
RECOMMENDATIONS	: (If di	fferen	t fr	om NA	SA)					
[/	.] [1	[j	[] (A	[.DD/D] ELETE)		
* CIL RETENTION	RATIONALE	: (If	appl	icabl	A	DEQUATE]		
	EMARKS: AILED CLOSED RETAINS USE OF TVC CONSIDERING THERMOSTAT CONTROL									

ASSESSME ASSESSME NASA FME	NT]	[D:	COMT	RK-85				NASA DATA: BASELINE [X] NEW []					
SUBSYSTE MDAC ID: ITEM:			COMM 8523 CB 4			•		÷ :					
LEAD ANA	LYSI	r:	W.C.	LONG	;								
ASSESSME	NT:												
			ITY	R	EDUN	IDANC	SCR	EENS		CII			
	FLIGHT HDW/FUNC			A		F	3	(2	LTI	ITEM		
NASA IOA	[3	3 /3]	[]	[]	[]	[] *]		
COMPARE	[/]	[]	[]	[]	[]		
RECOMMEN	DATI	ons:	(I:	f dif	fere	ent fr	om N	ASA)					
•	[/]	[1	[]	[]	[. (ADD/I] DELETE)		
* CIL RE								INZ	ADEQUATI ADEQUATI] 2	j		
REMARKS:	TOTE	7C 3C	DDD	11111			· . · · .	·- // // // // // // // // // // // // //	Figure 11 September 1		***		

ASSESSME ASSESSME NASA FME	NT I		3/05/88 NASA DAT COMTRK-8524 BASELIN 05-6PK-20201-1 NI								(X]	
SUBSYSTE MDAC ID:			852	COMM AND TRACK/EPD&C 8524 CB 48 CABIN TVC (5A)									
LEAD ANA	LYST	:	W.C	. LONG									
ASSESSME	NT:												
CRITICALITY REDUNDANCY SC FLIGHT								EENS			CIL ITE		
		W/FU							С				
NASA IOA	[3 [3	/3 /3]	[]	[[]	[]		[[]	*
COMPARE	[/]	E]	[]	[]		[]	
RECOMMEN	IDATI	ons:	(If dif	fere	nt fr	om N	ASA)					
·	[/]	. []	ί] .].]	(AD	[D/D	ELJ	ETE
* CIL RE		NOI	RATI	ONALE:	(If	appl	icab		ADEQUA'		[X]	
REMARKS: CRITICAL		S AG	REE.										

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8525		NASA DAT BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM:	COMM AND TRACT 8525 CB 51 STBD RMS	•	'/T (3A)	
LEAD ANALYST:	W.C. LONG			
ASSESSMENT:				- -
CRITICAL FLIGH	ITY REDUN	DANCY SCR	EENS	CIL ITEM
HDW/FU		В	c	
NASA [/ IOA [2 /1R] []]]	[] [P]	[] [P]	[x] *
COMPARE [N /N] [N]	[N]	[N]	[N]
RECOMMENDATIONS:	(If differe	nt from N	ASA)	
\ 1	1 (1 .	į j	[]	[] ADD/DELETE)
* CIL RETENTION REMARKS:	RATIONALE: (If	applicab	le) ADEQUATE INADEQUATE	[]
NO COMPARABLE NA	SA CCTV FMEA.	STBD NOT	USED ON PRE	SENT MISSION.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8	526				DATA: ELINE NEW]
SUBSYSTEM: MDAC ID: ITEM:	8526	COMM AND TRACK/EPD&C 8526 CB 51 STBD RMS TVC & P/T (3A)						
LEAD ANALYST:	YST: W.C. LONG							
ASSESSMENT:								
CRITICAL FLIGH		CIL ITEM						
HDW/FU	NC	A	В		С			
NASA [/ IOA [3 /3] []	[[]	[]		[] *
COMPARE [N /N] []	ί]	[]		[]
RECOMMENDATIONS:	(If di	ffere	nt fro	om NAS	A)			
,] ,] [1.	[]	[]	(AI	[D/D] ELETE
* CIL RETENTION	RATIONALE	E: (If	appl:	icable	e) ADEQ INADEQ		[]
REMARKS: NO COMPARABLE NA	SA CCTV F	MEA.	NOT (CRITIC	ALITIE	s AGRI	EE.	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-			NASA DATA BASELINE NEW					
MDAC ID:	8527	COMM AND TRACK/EPD&C 8527 CB 52 STBD RMS TVC HTR (3A)							
LEAD ANALYST:	W.C. LO	N.C. LONG							
ASSESSMENT:									
CRITICAL: FLIGH		REDUNE	ANCY SCRI	EENS	CIL ITEM				
HDW/FU		A	В	C	11211				
NASA [/ IOA [2 /1R] [P]	[_P]	[] [P]	[x] *				
COMPARE [N /N] . [N]	[N]	[N]	[N]				
RECOMMENDATIONS:	(If d	ifferen	t from NA	ASA)					
[2 /1R] [P]	[P]		[A] DD/DELETE)				
* CIL RETENTION 1	RATIONALI	E: (If	applicabl	Le) ADEQUATE INADEQUATE	[]				
REMARKS: NO COMPARABLE NAS MISSIONS.	SA CCTV	FMEA.	STBD RMS						

ASSESSME ASSESSME NASA FME	TИ	I		3/05/ COMTR		28			1	NASA D BASEL		[]	
SUBSYSTEMDAC ID:	M:			8528	COMM AND TRACK/EPD&C 3528 CB 52 STBD RMS TVC HTR (3A)									
LEAD ANALYST: W.C. LONG														
ASSESSME	ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM														
	1		N/FU		A		E	3	(2			LIFE	
NASA IOA	[3	/3]	[]	[]	[[]		[]	*
COMPARE	(N	/N]	[]	[]	ſ]		[]	
RECOMMEN	DA'	ΓI	ons:	(If	dif	fere	nt fr	om N	ASA)					
	[/]	[]	[]	ſ]	(Al		DELI	ETE)
* CIL RE	TE!	NT	ION	RATION	IALE:	(If	app]	licab	7	ADEQUA ADEQUA]]	
NO COMPA	REMARKS: NO COMPARABLE NASA CCTV FMEA. NOT CRITICAL. STBD RMS NOT USED ON PRESENT MISSIONS.													

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-	3529		NASA DATA BASELINE NEW		
	COMM AND 8529 CB 53 S		/EPD&C P/T HTR	(3A)		
LEAD ANALYST:	W.C. LO	NG				
ASSESSMENT:						
CRITICAL: FLIGHT	ľ	REDUND	ANCY SCRI		CIL ITEM	
HDW/FUI	1C	A	В	C .		
NASA [/ IOA [2 /1R] [P]	[] [P]	[] [P]	[]	*
COMPARE [N /N] [N J	[N]	[N]	[]	
RECOMMENDATIONS:	(If d	ifferen	t from NA	ASA)		
[2 /1R] [P]	[P]		[A] .DD/DELE	TE)
* CIL RETENTION 1	RATIONALI	E: (If	applicabl	le) ADEQUATE INADEQUATE	[]	
REMARKS: NO COMPARABLE NAS MISSIONS.	SA CCTV	FMEA.	STBD RMS		resent	1

ASSESSMEI ASSESSMEI NASA FME	NT :	ID:	3/05/ COMTI		N	IASA D BASEL		[]					
SUBSYSTEM MDAC ID:			COMM 8530 CB 53					(3A)						
LEAD ANA	LYS'	T:	W.C.	LONG										
ASSESSME	ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CI													
	FLIGHT													
		DW/FU		A			3	(3					
NASA IOA	[3 /3]	[[]	[]	[[]]]	*	
COMPARE	[n /n]	ξ]	[]	[]		[]		
RECOMMEN	DAT	ions:	(I	f dif	fere	nt fr	om N	ASA)						
	ξ	/]	[]	[]	E]	(A)	_] DELE	ETE)	
* CIL RE	TEN	TION	RATIO	NALE:	(If	appl	icab.	1	ADEQU <i>I</i> ADEQU <i>I</i>		[]		
REMARKS: NO COMPA ON PRESE				TV FM	EA.	пот	CRIT	ICAL	. STE	BD RI	MS 1	TO	USED	

	3/05/88 COMTRK-8531 05-6PK-20101-1	NASA DATA BASELINE NEW	[X]
	COMM AND TRACK/ 8531 CB 55 PORT RMS		
LEAD ANALYST:	W.C. LONG		
ASSESSMENT:			
CRITICAL: FLIGHT HDW/FUI	ľ	NCY SCREENS B C	CIL ITEM
NASA [2 /2 IOA [2 /1R] []]]	[] [] [P] [P]	[X] *
COMPARE [/N] [N]	[и] [и]	[]
RECOMMENDATIONS:	(If different	from NASA)	
[2 /1R] [P]	[P] [P] (A)	[] DD/DELETE)
* CIL RETENTION I	RATIONALE: (If a	pplicable) ADEQUATE INADEQUATE	
	OSS OF ALL CAPAB	D BE CONSIDERED AS UNITED TO PERFORM CCT	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	· · · _	32			ASA DAT BASELII NI]
SUBSYSTEM: MDAC ID: ITEM:	COMM AND S 8532 CB 55 PORS			/T (3	A)		
LEAD ANALYST:	W.C. LONG						
ASSESSMENT:							
CRITICAL FLIGH		EDUNDA	NCY SCR	EENS			IL PEM
HDW/FU	NC A		B -	C			
NASA [/ IOA [3 /3] []]	[]	[]	[] *
COMPARE [N /N] []	[]	τ]	[]
RECOMMENDATIONS:	(If dif	ferent	from N	ASA)			
[, /] [1	į j	[]] /DELETE
* CIL RETENTION	RATIONALE:	(If a	pplicab	A	DEQUAT]
REMARKS: NO COMPARABLE FA	ILED CLOSE	D NASA	CCTV F	MEA.	NOT C	RITI	CAL.

	NT I	D:	COMTR	3/05/88 COMTRK-8533 05-6PK-20102-1								BASELINI NEV	₹ [X]		
SUBSYSTER MDAC ID:	M:		COMM 8533 CB 56			,				(32	A)						
LEAD ANA	LYST	:	W.C.	LOI	NG												
ASSESSMEI	NT:																
(LIGHT			RE A	DUND	ANC	Y B	SCRE	ENS	s C			IL PEN	1		
		•				_						_					
NASA IOA	[2	/2 /1R]	[P]	[P]	[P]	[X X]	*	
COMPARE	[/N]	[N]	[N]	[N	J	[]		
RECOMMENI	DATIO	ons:	(If	d:	Ĺff	eren	t f	ro	om NA	SA)) 						
	[2	/1R]	(P]	[P]	[P		DD,	/DI] ELE	ETE)
* CIL RET	rent:	ON F	RATION	ALI	ጀ:	(If a	app	ıli	icabl	e)	ΑI	DEQUATE	г		ו		
										I			Ĭ	X	i		
REMARKS: OTHER TVO REDUNDANO COULD RES	CY A	ND LC	SS OF	A1	LL	CAPAI	BII	ľ	OT YT	PI						'IO	NS

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8534			SA DATA: ASELINE [NEW []
SUBSYSTEM: MDAC ID: ITEM:	COMM AND TR 8534 CB 56 PORT				
LEAD ANALYST:	W.C. LONG				
ASSESSMENT:					
CRITICAL: FLIGH	T	OUNDANCY		CI II	L EM
HDW/FU	NC A	В	С		
NASA [/ IOA [3 /3] []	[] [] [] *]
COMPARE [N /N] []	[] [] []
RECOMMENDATIONS:	(If diffe	erent fro	m NASA)		
[/] []] [] [] [(ADD,] OELETE
* CIL RETENTION :	RATIONALE: ((If appli	AD:	EQUATE [TAUQE	n]

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-85 06-6PK-20	35 102-1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 8535 CB 57 POR				7 (41)
LEAD ANALYST:	W.C. LONG	;			
ASSESSMENT:					
CRITICAL: FLIGHT	ITY R	EDUNDANCY	SCREENS	5	CIL ITEM
	ic a	. E	3	C - · ·	4
NASA [2 /2 IOA [2 /1R] [P] [[) [P]	[X] * [X]
COMPARE [/N] [N] [1	1] [N]	[]
RECOMMENDATIONS:	(If dif	ferent fr	om NASA)		
[2 /1R] [P] []	'] [P] (Af	[] DD/DELETE)
* CIL RETENTION I	RATIONALE:	(If appl	·	ADEQUATE	[]
REMARKS: OTHER TVCs AND CR REDUNDANCY AND LO COULD RESULT IN I	OSS OF ALL	CAPABILI	E CONSIL	DERED AS UN	ILIKE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/05/88 COMTRK-8536			DATA: ELINE (NEW (]								
SUBSYSTEM: MDAC ID: ITEM:	COMM AND TR 8536 CB 57 PORT												
LEAD ANALYST:	W.C. LONG												
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL													
CRITICAL FLIGH	CREENS		CIL [TEM										
HDW/FU	_	В	C										
NASA [/ IOA [3 /3] []	[]	[]		*								
COMPARE [N /N] []	[]	[]	. 1]								
RECOMMENDATIONS:	(If diffe	rent from	n NASA)										
[/] [-]	[]	[]	(ADI	[] D/DELETE;								
* CIL RETENTION	RATIONALE: (If applic	ADEQ	UATE UATE	[]								
REMARKS: NO COMPARABLE FA	ILED CLOSED	NASA CCTV	FMEA. NO	T CRIT	ICAL.								

ASSESSME	ASSESSMENT DATE: 2/10/88 ASSESSMENT ID: COMTRK-9001 NASA FMEA #:													7 60 3014		DATA LINE NEW	[]	
SUBSYSTE MDAC ID:	M:			COM 900 ACC	1				K		*2.*								7 7 2	
LEAD ANA	LY	ST	:	A.W	7. A	DD	IS	5				euro rus		- 5,7	43					. 1985 1
ASSESSME	NT	:																		
	CR:		ICAL:			•	RF	EDUN	DAN	10	Y S	CREE	NS	3			CI			
	FLIGHT HDW/FUNC													С			IT	EM		
NASA IOA	[3	/ /2R]		[P]	[:] NA]]	P]		[]	*
COMPARE	[N	/N]		[N]	[•	n j		[N]		[]	
RECOMMEN	DA'	ΓΙ	ons:	(If	di	ff	ere	nt	f	rom	NAS	A))		1 15	-			
	C	3	/1R]		[P]	(-	NA]	1	[P]	(Al	[D D /	DE:	LE'	TE)
* CIL RE									_	_			•		DEQU DEQU]]	
NASA FME	A I	NO'	r in	AUD	OIO	FM.	EA	PA	CKE	T	•									¥ 1.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	901	.1							DATA ELINE NEW	[:]		
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 9011 HEADSET			LIG	HI	WEI	GHT							
LEAD ANALYST:	A.W. AD	DIS	5											
ASSESSMENT:														
CRITICAL FLIGH		RI	EDUND#	N	CY	SCRE	ENS	3			CI	L EM		
HDW/FU		A B						С						
NASA [/ IOA [3 /2R] [P]]	P]	[P]		[]	*
COMPARE [N /N] [N]	[N]	ſ	N]		[]	
RECOMMENDATIONS:	(If d	if	ferent	E 1	fro	om NA	SA)						
[3 /2R] [P]	[P]	[P]	(A	[DD/	DE:] LE	TE
* CIL RETENTION	E:	(If a	apı	pli	cabl		IA IAV	DEQ!	UATE UATE]]		
REMARKS: NASA FMEA NOT IN	AUDIO F	ME	A PACI	KE:	г.									

ASSESSMENT DATE: 2/10/88 ASSESSMENT ID: COMTRK-9012 NASA FMEA #:														DAT ELIN NE	E				
SUBSYSTE MDAC ID: ITEM:				COMM 9012 COMM					EC	CTRO	NICS	N	101	DUL	E				
LEAD ANA	LYS	ST	:	A.W.	AD!	DI	3												
ASSESSME	NT	:																	
	CRITICALITY FLIGHT HDW/FUNC						EDU	NDA	NC	CY S	CREE	NS	5				CII		
	HDW/FUNC					A				В			С						
NASA IOA	[3	/ /2R]	[[P]] [NA]		[P]					*
COMPARE	[N	/N]	[N]		[N]		[N	1.			נ]	
RECOMMEN	DA'	ΓI	ons:	(I	f d:	if	fere	ent	f	rom	NAS	A)							
	[3	/2R]	[P]		Ĺ	NA]		[P]		ΑĽ	[D/D] ELE	
* CIL RE	TEI	NT:	ION I	RATIO	NALI	Ξ:	(If	f a	PF	olica					UATE UATE		[]	
NASA FME	A I	10	r IN	AUDI	O FI	Æ/	A PA	ACK	ΕΊ										

ASSESSME ASSESSME NASA FME	NT ID:			1				IASA DAT BASELIN NE]	
SUBSYSTEMDAC ID:	M:	COMM 9021 TELEP			ITER:	[M						
LEAD ANA	LYST:	A.W.	ADDIS	}								
ASSESSME	NT:											
	CRITICAL		RE	DUNDA	MCA	SCRE	ENS			IL TEM	r	
	FLIGH HDW/FU			В		C			IEM	i		
NASA IOA	[/ / 3]			[] []]] *	k
COMPARE	[N /N]	[]	[]	[]	[]	
RECOMMEN	DATIONS:	(If	diff	erent	fr	om NA	SA)					
	[3 /3]	[]	[]	[]] ADE	/DE] :LE:	ΓE
REMARKS:						icabl	7	ADEQUATI ADEQUATI]	
NASA FME	A NOT IN	AUDIO FMEA PACKET.										

ASSESSME ASSESSME NASA FME	NΤ	I				31			1		DATA: LINE NEW	[]	
SUBSYSTE MDAC ID: ITEM:	M:			COMM 9031 MICRO				IELD	<u></u>					
LEAD ANA	LY	ST	:	A.W.	ADDI	S								
ASSESSME	NT	:												
	CR	-			R	EDUNI	DANCY	SCR	EENS			CIL		
	CRITICALI FLIGHT HDW/FUN						F	3	(2		ITE	M	
NASA IOA	[3	/3]	[]	[[]]]] *	•
COMPARE	[N	/N]	[]	[]	[J		ľ]	
RECOMMEN	DA'	TI(ons:	(If	dif	fere	nt fr	om N	ASA)			\$1.7		
	[3	/3]	Ţ]	[]	[.]	(AI	[D/D] ELET	'E)
* CIL RE	TE	NT:	ION :	RATION	ALE:	(If	appl	icab.	1	ADEQU ADEQU	ATE ATE	[]	
NASA FME	A I	NO'	r in	AUDIO	FME	A PAG	CKET.	.: 5		. F		4		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:				NASA DATA BASELINE NEW]					
MDAC ID:	COMM AN 9041 RADIO,		:								
LEAD ANALYST:	A.W. AD	DIS									
ASSESSMENT:											
		REDUNDA	NCY SCREE	ns	CIL						
FLIGH HDW/FU	NC NC	A	В	С	115	M.					
NASA [/ IOA [3 /1R] [p]	[NA]	[] [P]	[] *]					
COMPARE [N /N] . [и ј	[N]	[N]	[]					
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)							
[3 /1F	.] [P]	[NA]	[P] (A	[.DD/D1] ELETE)					
* CIL RETENTION	RATIONAL	E: (If a	applicable	ADEQUATE	[]					
REMARKS: THIS ITEM IS USE SITUATION. NO N	D POST-F	LIGHT, I	POST-ABORT								

ASSESSMENT DATE: 2/10/88 ASSESSMENT ID: COMTRK-9042 NASA FMEA #:													ASA DA BASEL:	INE]
SUBSYSTI MDAC ID ITEM:	:			COMM 9042 RADIO												
LEAD AN	ALY	ST	:	A.W.	ADI)IS	3						_			
ASSESSMI	ENT	:														
	CRITICALITY FLIGHT HDW/FUNC							DAN	CY	SCRI	EENS	5			CIL ITEN	м
	1	HD	/FUI	1C		A			В			С				
NASA IOA	[3	/ /1R]	[P]	[N.] A]	[P]		[] *
COMPARE	[N	/N]	[N]	[N	J	[N]		[]
RECOMME	NDA!	ric	ons:	(If	đi	fí	ferer	nt	fr	om N2	ASA)					
	[3	/1R]	[P]	[N.	A]	[P]		[D/DI] ELETE)
* CIL RI	ETEI	NT:	ION I	RATION	ALE	C:	(If	ap	pl	icab]		AI Jat	EQUAT	E E	[]
REMARKS: THIS ITH	EM :										RT I					

ASSESSMENT DATE: 2/10/88 ASSESSMENT ID: COMTRK-9051 NASA FMEA #: 05-2A-21926-1													ASA DATA BASELINE NEW]	
SUBSYSTEMDAC ID:	M:		COMM A 9051 HEADSI					Œ	U	NIT							
LEAD ANA	LYSI	r:	A.W. 2	ADI	DIS	5											
ASSESSME	ASSESSMENT:																
,	CRITICALITY FLIGHT HDW/FUNC							ICY	7 1	SCRE	EENS	5		CI		ſ	
			A			E	3			C							
NASA IOA	[3	3 /1R 3 /3]	[P]		F	•]]	[P]	[]	*
COMPARE	[/N]	[N]	ı	N	ſ]	[N]	[]	
RECOMMEN	DAT]	cons:	(If	đ.	if	ferei	nt	fı	0	m N <i>7</i>	ASA))					
	ľ	/	.]	[]		•]	[] (2	[ADD/	'DE		TE)
* CIL RE	TENT	rion :	RATION	AL,	Е:	(If	aı	[qq	i	cab]			DEQUATE DEQUATE]	
REMARKS:														_		•	
NASA FME ULTIMATE VECTOR U	EFI	FECT	POSSIB	LΕ	L	oss (OF	VC	Ι	CE (CAP	AB.	ILITY FO	OR S	T	/TE	ITTH]

STRINGS. EXTREME, BUT POSSIBLE SCENARIO.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/10/88 COMTRK- 05-2A-2	9052 1926 - 2		NASA DATA BASELINE NEW								
SUBSYSTEM: MDAC ID:	COMM AN	D TRACK										
LEAD ANALYST:	A.W. AD	DIS										
ASSESSMENT:												
FLIGH	T		ANCY SCRE	ens	CIL ITEM							
HDW/FU	NC	A	В	C								
NASA [3 /1R IOA [3 /3] [[] *										
COMPARE [/N] [n]	[N]	[N]	[]							
RECOMMENDATIONS:	(If d	ifferen	t from NAS	SA)								
\) []	[]	[]	[] ADD/DELETE)							
* CIL RETENTION	RATIONAL	E: (If	applicable									
				ADEQUATE INADEQUATE	[]							
REMARKS: NASA FMEA CONSID	FDC DOCC	יייד די די די די	OF MILTER	דו אידו אידו	HTTW PAGIL							
ULTIMATE EFFECT VECTOR UPDATE, A	POSSIBLE	LOSS O	F VOICE C	APABILITY FO	R STATE							
STRINGS. EXTREM												

ASSESSME ASSESSME NASA FME	NT I		COMI	/88 RK-905 A-2195				NASA DATA BASELINI NEV		;] ;]	
SUBSYSTE MDAC ID: ITEM:	M:		9053	AND T		ET A	DAPTI	ER			
LEAD ANA	LYST	:	A.W.	ADDIS	3						
ASSESSME	NT:										
	CRITICALITY REDUNDAN FLIGHT									CII	
		W/FU		A		E	3		С		
NASA IOA	[3 [3	/3 /3]	[]	[]	[]]] *
COMPARE	[/]	[]	[]	[]	[]
RECOMMEN	DATI	ons:	(1	f dif	feren	t fi	com N	ASA)			
	[/]	[]	(]	[] (2	[ADD/I] DELETE
* CIL RE	TENT	NOI	RATIO	ONALE:	(If	app]	licab		ADEQUATE ADEQUATE]
REMARKS:		ES.									

ASSESSME ASSESSME NASA FME			54			1	NASA BASE	DATA LINE NEW	[]				
SUBSYSTE MDAC ID: ITEM:				COMM 9054 HEADS			K							
LEAD ANA	LY	ST	:	A.W.	ADDI	S								
ASSESSME	NT	:												
	CRITICALITY FLIGHT							SCRE	ENS			CIL		
					A		В		(C ,		ITE	M	
NASA IOA	[3	/3]	[]]]	[]		[]	*
COMPARE	[N	/N]	[]	[]	[]		ľ]	
RECOMMEN	DAT	ric	ons:	(If	dif	fere	nt fr	om NA	SA)					
	[/]	[]	[]	[]	(AI	[DD/DI] ELE	TE)
* CIL RE				RATION	ALE:	(If	appl	icable	1	ADEQU ADEQU]	
NA DIEDE	משמ	いつて	70											

ASSESSME ASSESSME NASA FME			1		DATA: ELINE NEW	[X]					
SUBSYSTE MDAC ID:			COMM 9061 VIDE				R					
LEAD ANA	LYST	:	W.C.	LONG								
ASSESSME	NT:											
		ICAL LIGH	ITY	R	EDUN	DANCY	SCR	EENS			CIL	
	_		NC	A	•	В		(С			••
NASA IOA	[3 [3	/3 /3]	A [] []]] []		[] *
COMPARE	ι	/]	[]	[N]	[]	N]		[]
RECOMMEN	DATI	ons:	(I	f dif	fere	nt fr	om N	IASA)				
	[/]	[3	[]]	(A	[DD/D] ELETE)
* CIL RE		ION	RATIO	NALE:	(If	appl	icab			JATE JATE	[]
REMARKS: CRITICAL 14, "VTR	ITIE	S AG	REE W	ITH N	IASA BE C	BLANK ONSID	ET S	TATE CRI	MENT TICA:	CCTV LITIY	FME 3/3	A NOTE

ASSESSMI ASSESSMI NASA FMI	ENT	ID			03/88 ITRK-9	062			ì		DATA: LINE NEW	[X	[]	
SUBSYSTI MDAC ID: ITEM:				906	2	TRAC	K CORDE	R						
LEAD ANA	ALYS	T:		W.C	LON	īG								
ASSESSMI	ENT:											- 54 1		
CRITICALITY REDUNDANCY SCREENS FLIGHT												CIL		
			/FU			A	В		C	3		IIE	4.1	
NASA IOA	<u>[</u>	3 ,	/3 /3]]]] []	[]		[]	*
COMPARE	[,	/]	[]	[N]	[]			[]	
RECOMMEN	TADI	IO	NS:	(If di	ffere	nt fr	om 1	VASA)					
	[,	/]	[]	. []	[]	(ÀI	[D/D	ELE	TE)
* CIL RE		TI	ON I	RATI	ONALE	: (If	appl	icak	P		ATE	_]	
REMARKS: CRITICAL	LITI						BLANK							OTE

ASSESSME ASSESSME NASA FME			-	ASA D BASEL		[X]						
SUBSYSTEMDAC ID:	M:		COMM 9063 VIDEO			K CORDEI	₹.						
LEAD ANA	LYST	:	W.C.	LONG									
ASSESSME	NT:												
		ICAL LIGH	ITY T	R	EDUN	DANCY	SCR	EENS			CIL		
	_	W/FU		A		В		С					
NASA IOA	[3	/3 /3]	[[]] []	[]		[] *	
COMPARE	[/]	[]	[1]	[N]		[]	
RECOMMEN	DATI	ons:	(I :	f dif	fere	nt fr	om N	ASA)					
	[/]]	[]	[1	(A)	[DD/D] ELETE)	
* CIL RE	TENT	NOI	RATIO	NALE:	(If	appl	icab	A	DEQUA DEQUA		[]	
REMARKS: CRITICAL	REMARKS: CRITICALITIES AGREE WITH NASA BLANKET STATEMENT CCTV FMEA NOTE												

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/03/88 COMTRK-9064		NASA DATA: BASELINE NEW	[X]
	COMM AND TRACK 9064 VIDEO TAPE RECO	RDER PWR S	w	
LEAD ANALYST:	W.C. LONG			
ASSESSMENT:				
CRITICALI FLIGHT		NCY SCREEN	s	CIL ITEM
HDW/FUN		В	С	IIEM
NASA [3 /3 IOA [3 /3] []] []]	[] *
COMPARE [/] [] [[и] [N]	[]
RECOMMENDATIONS:	(If different	from NASA)	
[/] [] [ן נ	`] . (AD	[] DD/DELETE)
* CIL RETENTION F	RATIONALE: (If ag	oplicable)	3 DEOUS ME	
DEWI DVG		I	ADEQUATE NADEQUATE	• •
REMARKS: CRITICALITIES AGE 14, "VTR OPERATION	A STATE OF THE STA	and the state of t	Control of the contro	

ASSESSME ASSESSME NASA FME	NT ID:						N	IASA DAT BASELIN NE		X]		
SUBSYSTEMDAC ID:		COMM A 9065 VIDEO			RDEF	R PWR	SW						
LEAD ANA	LYST:	W.C. I	ONG						-				
ASSESSME	ASSESSMENT:												
	CRITICAL FLIGH		RE	DUNDA		SCREI				CEM			
	HDW/FU	NC	A		В		(
NASA IOA	[3 /3]	[]	[]	[]	[[] ;]	k	
COMPARE	[N /N	1	[]	[1	1	[]	4]	[]		
RECOMMEN	DATIONS:	(If	diff	erent	fre	om NA	SA)						
	[/]	ι.]	τ]	[] ([ADD,	/DE		ΓE)	
* CIL RE	TENTION	RATION	ALE:	(If a	appl	icabl	7	ADEQUATE ADEQUATE]		
REMARKS: CRITICAL 14, "VTR	ITIES AC	REE WIT	TH NA	SA BI	LANK	ET ST	ATEI CRI	MENT CCI	V F1	ΜΕΑ /3.	No II	OTE	

ASSESSMI ASSESSMI NASA FMI	ENT I	D:						1		DATA LINE NEW	[X]	
SUBSYSTEMDAC ID			9066				er Au	DIO N	MODE	SW			
LEAD AN	ALYSI	? :	W.C.	LONG					= ;				*
ASSESSM	ENT:												
			CIL										
		LIGH W/FU	NC	A]	В	C	3 - 11 -	1 1.1	TIE	М	
NASA IOA	[3 [3	/3]	[]	[]	[]		[]	*
COMPARE	[/	1	[]	[]	4]	[]	1]		[]	
RECOMME	NDATI	ons:	(I	f dif	fere	nt fi	rom N	(ASĀ)					
n north o	<u>[</u>	,/	.]	[]	. []	[.]	(AI	[DD/D		TE)
* CIL R	ETENT	NOI	RATIO	NALE:	(If	app	licab						
								INA	DEQU DEQU	ATE ATE	[]	
REMARKS CRITICAL 14, "VTI	LITIE												ОТE

ASSESSMEN ASSESSMEN NASA FME	T	ID	TE:	3/0 COM	3/88 TRK-90	67							DATA LINE NEW	[X	;]	
SUBSYSTEM MDAC ID:				906	M AND 1 7 EO TAP			DEF	R AU	JDIO	MC	DE	sw			
LEAD ANA	LYS	T:		W.C	LONG											
ASSESSME	NT:															
,					R	EDU	NDAN(CY	SCF	REENS	3			CII		
			IGH /FU		A			В			C					
NASA IOA	[3	/3 /3]]]	[]	[[]		[]	*
COMPARE	[/	3	[]	[N]	[N]		[]	
RECOMMEN	DAT	CIC	NS:	(If dif	fer	ent	fro	om 1	NASA))					
	[/	j	[-]	[]	[]	(A	[DD/I		ETE)
* CIL RE	TEN	TI	ON	RATI	ONALE:	(I	f ap	pl:	ical				JATE JATE]	
REMARKS: CRITICAL 14, "VTR	ITI OF	ES PEF	AG RATI	REE	WITH N SHALL	ASA BE	BLA CONS	NKI IDI	ET S EREI	STAT	EMI IT:	ENT ICA	CCTV LITIY	FMI 3/3	ΞΆ 3."	NOTE

ASSESSME ASSESSME NASA FME	NT	II			MTRK-9068 BASELINE NEW									
SUBSYSTE MDAC ID: ITEM:				906	M AND 8 EO TAP			ER VI	DEO	MODE	sw			
LEAD ANA	LYS	T:		W.C	. LONG									
ASSESSME	NT:													
	CRI		CAL		R	EDU	NDANC	Y SCF	REENS			CII	_	
	H			NC	A			В	(С	•		11.1	
NASA IOA	[3	/3 /3]]]	[]]	[]		[]	*
COMPARE	ξ		/]	[]	[]	M]		N]		[]	
RECOMMEN	DAT	'IC	NS:	(If dif	fer	ent f	rom N	IASA)					
	. [/	-]	(]	[]	[]	(AI	[DD/E) ELI	ETE)
* CIL RE	TEN	ΤI	ON	RATI	ONALE:	(I	f app	licab		ADEQU	JATE JATE	•]	
CRITICAL					WITH N									10TE

ASSESSMENT ASSESSMENT NASA FMEA	r II				9					A DATA SELINE NEW	[X]	
SUBSYSTEM: MDAC ID: ITEM:			COMM A 9069 VIDEO			ORDEF	R VIDE	:0	MOE	DE SW			
LEAD ANALY	YST:		W.C. I	ONG									
ASSESSMENT	r:												
CI		CAL LIGH	ITY I	RE	DUND	ANCY	SCREE	ens			CIL ITE		
	HDV	/FUI	NC	A		В			С				
NASA IOA	[3 [3	/3 /3]	[]] []	[]] 	[]	*
COMPARE	[/]	[]	[N	1	[N]]	[]	
RECOMMEND	ATIO	ons:	(If	diff	eren	t fro	om NAS	SA)					
	[/	.1	[]	[1	[•] (A	[DD/D		ETE)
* CIL RET	ENT:	ION :	RATION?	ALE:	(If	appl:	icable			EQUATE EQUATE	-]	
REMARKS: CRITICALI 14, "VTR	TIE:	S AG RATI	REE WIT	TH NA	ASA B BE CO	LANKI NSIDI	ET STA	ATI CRI	EME! [TI(NT CCTV CALITIY	FME 3/3	A 1	NOTE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/03/88 COMTRK-90	70]]		
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 1 9070 VIDEO TAPI		R FUNCTI	ON SELECT	PUSI	H BUTTON:
LEAD ANALYST:	W.C. LONG					
ASSESSMENT:						
CRITICAL FLIGH		EDUNDANCY	SCREENS		CIL	1
HDW/FU	NC A	В	(C		,
NASA [3 /3 IOA [3 /3] [] [] []	[] *
COMPARE [/] [] [N] [1	N]	[]
RECOMMENDATIONS:	(If diff	ferent fro	om NASA)			
.[/] [] [] [] (A)	[DD/DE] :LETE)
* CIL RETENTION I	RATIONALE:	(If appl:		ADEQUATE ADEQUATE]
REMARKS: CRITICALITIES AGI 14, "VTR OPERATION						

ASSESSME ASSESSME NASA FME	NT II		3/03/ COMTI	OMTRK-9071 BASELINE [X] NEW []									
SUBSYSTE MDAC ID:			COMM 9071 VIDE				R FU	NCTIO	N SEL	ECT	PUS	н витт	ons
LEAD ANA	LYST	:	W.C.	LONG									
ASSESSME	NT:												
		ICAL LIGH	ITY	R	EDUN	DANCY	SCR	EENS			CIL		
	_		NC	. A	•	E	3	С				••	
NASA IOA	[3	/3 /3]	[]	[[]	[]		[] *]	
COMPARE	נ	/]	[]	[N	[]	[N]		[1	
RECOMMEN	DATI	ons:	(I:	f dif	fere	nt fr	om N	ASA)					
	[/]	[1	ι]	[.]	(A	[DD/D] ELETE)	
* CIL RE	TENT	ION	RATIO	NALE:	(If	appl	icab.	A	DEQUA DEQUA]	
REMARKS: CRITICAL 14, "VTR	ITIE:	S AG RATI	REE W	ITH N	IASA BE C	BLANI ONSII	ET S	TATEM CRIT	ENT C	CTV	FME 3/3	A NOTE	

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	COMTRK-9091		NASA DATA BASELINE IF NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	COMM AND TRA 9091 WIRELESS CRE	CK W COMM SYS	TEM (WCCS)	
LEAD ANALYST:	A.W. ADDIS			
ASSESSMENT:				
	LITY REDU			CIL ITEM
HDW/F	HT JNC A	В	С	
NASA [3 /3 IOA [3 /2]	R] [P]	[] [NA]	[] [P]	[] *
COMPARE [/N] [N]	[N]	[и]	[]
RECOMMENDATIONS	: (If differ	ent from Na	ASA)	
[] []	[]	[] (A	[] DD/DELETE)
* CIL RETENTION	RATIONALE: (I	f applicab	le) ADEQUATE INADEQUATE	[]
REMARKS: THE WCCS IS USED AND BULKHEAD AUD WOULD BE USED.	DIO JACKS. ON	LOSS OF R	BLES BETWEEN (F LINK(S), TH	CREWMEMBER(S)
11007D DD 00DD+	TOTAL MATTER NO	DII CILLIACINI		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/10/88 COMTRK-95	521				SA DATA: ASELINE NEW	: [[]
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 9521 CIRCUIT E							
LEAD ANALYST:	A.W. ADDI	s						
ASSESSMENT:								
CRITICAL FLIGH		REDUND	ANCY	SCREE	ens		CIL	vr
HDW/FU		A	В		С		110	* 4
NASA [/ IOA [3 /3] []	[]]]	[] *
COMPARE [N /N] []	[]	[]	[]
RECOMMENDATIONS:	(If dif	feren	t fro	om NAS	SA)			
[3 /3] []	[]	[] (Al	[DD/DI] ELETE
* CIL RETENTION : REMARKS: NASA FMEA NOT IN		·		icable	AD:	EQUATE EQUATE	[]

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/10/88 COMTRK-9541	1	BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	COMM AND TH 9541 BATTERY	RACK			
LEAD ANALYST:	A.W. ADDIS	Gr. A	Art is in the		
ASSESSMENT:					
CRITICAL FLIGH		DUNDANCY SCREEN	S	CIL	r
HDW/FU		В	C	1111	-
NASA [/ IOA [3 /1R] [P]] [] [] [AN] [P]	[] *]
COMPARE [N /N] [N]	ן (א) [и]	[]
RECOMMENDATIONS:	(If diffe	erent from NASA)		
[3 /1R] [P]] [AN] [[DD/DE] LETE)
* CIL RETENTION	RATIONALE: (ADEQUATE NADEQUATE	[]
REMARKS: THIS BATTERY IS WHICH IS NOT USE SITUATION. REFE	D EITHER IN	90-2 HAND-HELD : FLIGHT OR ABOR'	SURVIVAL RA	DIO	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/10/88 COMTRK-9542	1	IASA DATA: BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	COMM AND TRACK 9542 BATTERY		·		
LEAD ANALYST:	A.W. ADDIS				
ASSESSMENT:					
CRITICA		ANCY SCREENS		CIL	T
FLIG HDW/F		В	2		-
NASA [/ IOA [3 /1	R] [P]	[] [I] [I	?]	[] *
COMPARE [N /N	ן וא]	[N] [N	1]	τ]
RECOMMENDATIONS	: (If differen	t from NASA)			
[3 /1	R] [P]	[NA] []	?] (AI	[DD/DE] ELETE)
* CIL RETENTION	RATIONALE: (If		_		_
			ADEQUATE ADEQUATE	[]
REMARKS: THIS BATTERY IS WHICH IS NOT US	IN THE PRC 90-2 ED EITHER IN FLI	HAND-HELD ST	JRVIVAL RA	ADIO POST	UNIT, T-ABORT

SITUATION. REFER TO ASSOCIATED IOA SHEET.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:									
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 9561 VTR CB 3		EPD&	C					
LEAD ANALYST:	W.C. LONG								
ASSESSMENT:									
CRITICAL		EDUNDAI	NCY	SCREE	NS		CIL	7	
FLIGH HDW/FU			В		С		TIER	L	
NASA [3 /3 IOA [3 /3] []	[]	[]	[] *	
COMPARE [/] []	[И]	[N]	[]	
RECOMMENDATIONS:	(If dif	ferent	fro	m NAS	A)				
. [/] []	[]	[] (AI	[DD/DE] :LETE)	
* CIL RETENTION 1	RATIONALE:	(If a	ppli		ΑI	DEQUATE DEQUATE	[]	
REMARKS: CRITICALITIES AG 1R, "VTR OPERATIO	REE WITH N	ASA BL	ANKE SIDE	T STA	TEME	NT CCTV	FMEA	NOTE	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/03/88 COMTRK-9562									
SUBSYSTEM: MDAC ID: ITEM:	COMM AND THE 9562 VTR CB 3 (! -							
LEAD ANALYST:	W.C. LONG									
ASSESSMENT:										
CRITICA FLIG		DUNDANCY S	CREENS	CIL ITEM						
HDW/FU		В	С							
NASA [3 /3 IOA [3 /3] [] []	[]	[] *						
COMPARE [/] [] [и]	[N]	[]						
RECOMMENDATIONS	: (If diff	erent from	n NASA)							
[/] [] []	[]	[] (ADD/DELETE)						
* CIL RETENTION	RATIONALE:	(If applio	cable) ADEQUATI INADEQUATI	-						
REMARKS: CRITICALITIES AG 1R, "VTR OPERAT	GREE WITH NA IONS SHALL B	SA BLANKET E CONSIDER	T STATEMENT CCT	TV FMEA NOTE Y 3/3."						

ASSESSME ASSESSME NASA FME	NT .	ID:		3/03/88 NASA D COMTRK-9563 BASEI								(]
SUBSYSTE MDAC ID:			9563				&C		<u>.</u>			
LEAD ANA	LYST	r:	W.C.	LONG	;							
ASSESSME	NT:											
•		TICAL FLIGH	YTI	F	EDUN	IDANCY	SCF	REENS			CII	
		W/FU		A В С								M
NASA IOA	[3	3 /3]]]	[[]	[[]		[] *
COMPARE	[/]	[]	[1]	[]	N J		[]
RECOMMEN	DATI	ons:	(I	f dif	fere	nt fr	om N	ASA)				
	[/]	[]	[]	[]	(AI	[D/D] ELETE)
* CIL RET	rent	NOI	RATIO	NALE:	(If	appl	icab		ADEQUZ	ATE	[
REMARKS: CRITICAL	ITIE	S AG	REE W	ITH N	ASA	BLANK	ET S	TATEM	ADEQUA MENT (CCTV	FME] A NOTE
1R, "VTR	OPE	RATI	ONS S	HALL	BE C	ONSID	ERED	CRIT	CICAL	TTY 3	1/3.)

ASSESSME ASSESSME NASA FME				64						BASE	LINE						
SUBSYSTE MDAC ID:				95	64		TRAC (3A)	K/E	PD	kC							
LEAD ANA	LYS	ST:	:	W.	c. 1	LONG											
ASSESSMENT:																	
	CR:					R	EDUN	DAN	CY	SCF	REEN	is			CIL		
	FLIGHT HDW/FUNC A								В			С					
NASA IOA	[3	/3 /3]		[[]]]	[:]		[]	*
COMPARE	[/]		[]	[N]	Į	N]		[]	
RECOMMEN	IDA!	ΓI	ons:		(If	dif	fere	nt	fr	om N	NAS#	A)					
	/]		[]	[]	İ	[]	(A	DD/D				
* CIL RETENTION RATIONALE: (If applicat										-	DEQU. DEQU.	ATE ATE	[]			
REMARKS: CRITICAI 1R, "VTF	INADEQUATE [] INADEQUATE [] EMARKS: RITICALITIES AGREE WITH NASA BLANKET STATEMENT CCTV FMEA NOTE R, "VTR OPERATIONS SHALL BE CONSIDERED CRITICALITY 3/3."																

ASSESSMENT DATE: 1/11/88 ASSESSMENT ID: COMTRK-95 NASA FMEA #: WCCS BATT							91 ERY						ASA DA BASEL:		[) x)	
SUBSYS MDAC I ITEM:	TEM	:			M ANI	י כ											
LEAD A	NAL	YST	:	A.W	. ADI	DIS	5										
ASSESS	MEN	T:															
	С					RI	EDU	NDAN	CY	sc	REEN	S			CI		
			LIGH W/FU			A			В			C			IT	EM	
NAS.	A A	[3 [3	/3 /2R]	[P]	[N.]	[[P]		[]	*
COMPAR	E	[/N]	[N]	[N]	[N]		[]	
RECOMM	END	ATI	ons:	(:	[f d:	Ĺfí	er	ent :	fro	om I	NASA)					
		[/]	[]	[]	C		·]	(AI] DELI	ETE)
* CIL	RET	ENT	ION 1	RATIO	ONALI	Ξ:	(I	f app	pli	cal	•	78.1	DECTA		-		
DD1/1 D1/	a .										I	A NAI	DEQUAT DEQUAT	re re	[]	
REMARK BATTER FUNCTI WITH N	YР ОИ,	CR	EWME	MBER	(S) V												

ASSESSMI ASSESSMI NASA FMI	COMI	/88 RK-10 TV-5	001			N	IASA DA BASELI N		[x]			
SUBSYSTI MDAC ID: ITEM:			1000	AND ' 1 TV-PO			:H						
LEAD AN	ALYS	T:	W.H.	TRAH	AN								
ASSESSMI	ENT:												
		TICAL		R	EDUN	DANCY	SCR	EENS			CI		
FLIG HDW/F				A		E	3	(2				
NASA IOA	[3 /3 3 /3]	[]] []	[[]		[]	*
COMPARE	[/]	[]	[]	[1		[]	
RECOMME	NDAT	: RMOI	(1	f dif	fere	ent fr	om N	(ASA					
	Ţ	/]	Γ]	[]	Ţ]	(Al	[D D /	DEL.	ETE
* CIL R	ETEN	TION	RATIO	NALE:	(If	appl	licab	7	ADEQUAT		[]	
REMARKS	:								~		•	•	

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/11/88 COMTRK-10 NONE	002		NASA DATA: BASELINE NEW							
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 10002 EMU/TV-LI		TTING DI		** . . * * * *						
LEAD ANALYST:	W.H. TRAH	AN									
ASSESSMENT:											
CRITICAL: FLIGHT		EDUNDAN	ICY SCREE	NS	CIL ITEM						
HDW/FUI	_		В	C							
NASA [/ IOA [3 /3] [] []	[]	[] *						
COMPARE [N /N] [] [. 1	[]	[]						
RECOMMENDATIONS:	(If dif	ferent	from NAS	A)							
[/] [] []	[] [A]	[] DD/DELETE)						
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []											
INADEQUATE [] REMARKS: NO COUNTERPART NASA FMEA. CREDIBLE FAILURE, BUT DOES NOT WARRANT ADDITION TO NASA FMEA's.											

NASA FMEA #: NON					ITRK-	10003	3			NASA BASE	DATA LINE NEW	[]	
SUBSYSTE MDAC ID:	M:			100				LENS	SWITC	ЭН				
LEAD ANA	LY	ST	:	W.F	I. TR	AHAN								
ASSESSME	NT	:												
	CRITICALITY REDUN FLIGHT									;		CII		
	FLIGHT HDW/FUNC A									С		111	21.1	
NASA IOA]	3	/3]]]]]	[[]		[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	DA'	ΤI	ons:	((If d	iffer	rent	from	NASA)					
	E	3	/3]	[]	. [.]	. [1 ′	(A	[DD/I] DELE	ETE)
* CIL RE	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []													
TO NASA														

ASSESSMEN ASSESSMEN NASA FME	K-10	004				NASA DATA BASELINE NEV]			
SUBSYSTEM MDAC ID:			COMM 10004 EMU/T								
LEAD ANA	LYST	:	W.H.	TRAH	AN						
ASSESSME	NT:										
(CRITICALITY REDU FLIGHT						SCRE	EENS	;	CII	
FLIGHT HDW/FUNC						В			C		
NASA IOA	[3 [3	/3 /3] .	[]	[]]] *
COMPARE	[/]	[]	[]	[1	[]
RECOMMEN			-								
[/] [,	[] ′	[. (2	[\DD/D] ELETE)
* CIL RET			RATION	ALE:	(If	appl	icabl		ADEQUATE IADEQUATE	[]

ASSESSME ASSESSME NASA FME	TNE	ID:	COM	1/88 TRK-100 -TV-2	005]	NASA DAT BASELIN NE] K]	
SUBSYSTEMDAC ID:			1000	AND 1 5 TV-TR								
LEAD ANA	ALYS	T:	W.H	TRAH	AN							
ASSESSMI	ent:											
	CRI	TICAL		R	EDUN	IDANCY	SCF	REENS		CI		
FLIG HDW/F				A		В		(С			
NASA IOA]	3 /3 3 /3]	[]]]	[]	[[]	*
COMPARE	.[/]	[]	[]	[1	[]	
RECOMME	radn	cions:	(:	[f dif	fere	ent fr	om N	IASA)				
	[/]	[]	[]	[]	[(ADD/	DELE	TE
* CIL R	ETEN	TION	RATI(ONALE:	(If	appl	icak		ADEQUATI ADEQUATI]	
REMARKS	•									-	, " ,	

NO DIFFERENCES.

ASSESSME ASSESSME NASA FME	SSESSMENT DATE: 1/11/88 SSESSMENT ID: COMTRK-10006 ASA FMEA #: EMU-TV-3								NASA DA BASELI 1		
SUBSYSTE MDAC ID: ITEM:	M:		1000	M AND 06 TV-AN							
LEAD ANA	LYSI	!:	W.H.	TRAH	AN						
ASSESSME	NT:										
	20 22	'ICAL	ITY	Ŕ	EDUN	IDANC	SCR	EENS		C	IL PEM
				A		I	3		C _/**:* :	_	1 1511
NASA IOA	[3	/3]	[]	[]	[[]]] *
COMPARE	[/]	[]	ľ	1	ι]	[]
RECOMMEN	DATI	ONS:	(1	f dif	fere	ent fi	om N	ASA)			
	[/]	ξ	1	C]	[1] /DELETE)
* CIL RE	TENI	'ION	RATIO	NALE:	(If	appl	licab		ADEQUAT ADEQUAT	Œ []
REMARKS:	RENC	ES.									

ASSESSMENT DATE: 1/11/88 ASSESSMENT ID: COMTRK-10007 NASA FMEA #: EMU-TV-6							N	IASA DAT BASELIN NE		x]	
SUBSYSTE MDAC ID:		COMM 10007 EMU/T									
LEAD ANA	LYST:	W.H.	TRAH	AN							
ASSESSME	INT:										
FLIGHT					DANCY	SCRI	EENS		CI		
	HDW/F		A		В		C				
NASA IOA	[3 /3 [3 /3]	[]	[]	[]	[] *	
COMPARE	[/]	[]	[]	[1	[]	
RECOMMEN	IDATIONS	: (If	dif	fere	nt fr	om NA	ASA)				
	[7	1	[]	[]	ſ]	[ADD/] DELET	E;
* CIL RE	ETENTION	RATION	ALE:	(If	appl	icab]	P	ADEQUATI ADEQUATI]	
REMARKS:	<u>;</u>							- 2,-		,	

NO DIFFERENCES.

ASSESSMENT D ASSESSMENT I NASA FMEA #:	D: COM	TRK-1050	1		ì	IASA BASE	LINE	-]	
SUBSYSTEM: MDAC ID: ITEM:	105		•							
LEAD ANALYST	: W.H	H. TRAHAN								
ASSESSMENT:										
	ICALITY LIGHT	RED	UNDANC	SCR	EENS			CII		
HD	W/FUNC	A	1	3		2				
NASA [3 IOA [3	/3] /3]	[]	[]	[]		[]	*
COMPARE [/ 1	[]	[]	ſ]		[]	
RECOMMENDATI	ONS:	(If diffe:	rent fi	com N	ASA)					
Ĺ	./ 1	[]	[]	[]	(A) DELE	TE)
* CIL RETENT	ION RAT	ONALE: ([f app]	licab	P	DEQU]	
REMARKS:					INA	DEQU	ATE	[]	
NO DIFFERENC	ES.									

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA BASELINE NEW	[]		
SUBSYSTEM: MDAC ID: ITEM:	COMM AND I 10502 EMU/TV-BAI					
LEAD ANALYST:	W.H. TRAHA	Ŋ				
ASSESSMENT:						
	ITY RE	DUNDANC	Y SCREEN	S	CIL ITEM	r
FLIGH HDW/FU			В	С	112	1
NASA [/ IOA [1 /1] [] [] [1	[[x] *
COMPARE [N /N] [] [] [1	[N]
RECOMMENDATIONS:	(If diff	ferent f	rom NASA)		
. [1/1] [] [] [[A ADD/DI	
* CIL RETENTION	RATIONALE:	(If app		ADEQUATE NADEQUATE	[]
REMARKS: NO NASA COMM & T SHOULD BE COVERE			CREDIBL	~	•	THAT

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-110	01 00-1	:	NASA DATA BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	COMM AND TO) PM TRA			1 N
LEAD ANALYST:	A.W. ADDIS					
ASSESSMENT:						
CRITICAL FLIGH	r	DUNDANCY			CIL ITEM	1
HDW/FU	NC A	. В	•	C //		
NASA [3 /1R IOA [3 /1R] [P] [NA] [P	A] [:	P] P]	[] *]
COMPARE [/	1 (:] [и] []	C .]
RECOMMENDATIONS:	(If diffe	erent fro	om NASA)			
[/] [] [] [] (A)	[DD/DE] ELETE)
* CIL RETENTION	RATIONALE:	(If appli	·	ADEQUATE ADEQUATE	[]
REMARKS: AGREE WITH FMEA:	SCREEN B ASS	SIGNMENT.				

ASSESSMENT DA ASSESSMENT ID NASA FMEA #:	: COMTR	K-1100			NASA DATA BASELIN NE]
SUBSYSTEM: MDAC ID: ITEM:	11002			O PM TRA	NSPONDER		
LEAD ANALYST:	A.W.	ADDIS					
ASSESSMENT:							
	CALITY IGHT	RED	UNDANCY	SCREENS	5	CIL	
HDW,	/FUNC	A	В		С		
NASA [3 , IOA [3 ,	/1R] /1R]	[P] [P]	[N2 [P] [P] P]	[] *]
COMPARE [/]	[]	[N] []	[1
RECOMMENDATIO	NS: (If	diffe	rent fro	om NASA)			
[,	/]	[]	[] [] ([ADD/D] ELETE
* CIL RETENTION REMARKS:		·		IN	ADEQUATE IADEQUATE	[]
AGREE WITH FM	EA SCREEN	B ASS	IGNMENT.	•			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/10/88 COMTRK-1: 05-6PH-24	1003 4800-1		NASA DATA: BASELINE [] NEW [X]									
	COMM AND 11003 GCIL DRIV		BAND PM A	MPLIFIER SYS	STEM								
LEAD ANALYST:	A.W. ADD	IS											
ASSESSMENT:	ASSESSMENT:												
CRITICALITY REDUNDANCY SCREENS CIL ITEM													
HDW/FU	NC I	A	В	С									
NASA [3 /1R IOA [3 /2R] []	P] P]	[NA] [P]	[P] [P]	[] *								
COMPARE [/N] [3	[и]	[]	[]								
RECOMMENDATIONS:	(If di	fferent	from NAS	SA)									
[/] []	[]	[] (AI	[] DD/DELETE)								
* CIL RETENTION	CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []												
REMARKS: AGREE WITH FMEA ENCOMPASSED IN TO SYSTEM.	EMARKS: GREE WITH FMEA SCREEN B ASSIGNMENT. THE AMPLIFIER DRIVERS ARE NCOMPASSED IN THE NASA FMEA, WHICH COVERS ALL THE S-BAND PM												

ASSESSMEN ASSESSMEN NASA FMEA	IT ID:	COMTRK-	11004		NASA DATA: BASELINE [] NEW [X]								
SUBSYSTEM MDAC ID:		11004			AMPLIFIER S	YSTEM							
LEAD ANAI	LYST:	A.W. AD	DIS										
ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C													
NASA IOA] [P] P]	[NA] [P]	[P] [P]	[] *						
COMPARE	[/N] [] .	[и]	[]	[]						
RECOMMENI	DATIONS:	(If d	iffere	nt from NA	ASA)								
	[/] [.]	[]	[]	[ADD/D] ELETE)						
* CIL RET	CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []												
REMARKS: AGREE WITHER ENCOMPASS	TH FMEA SED IN T	SCREEN E HE NASA	ASSIG	NMENT. T	HE AMPLIFIER ERS ALL THE	DRIV	ERS ARE D PM						

ASSESSME NASA FME	NT I	D:	COMT	K-11	005 800-	·5	BASELINE [] NEW [X]							
SUBSYSTEMDAC ID:	M:		11005	5		ck s-ban	ID FM	reye ı	EM					
LEAD ANA	LYST	:	A.W.	ADDI										
ASSESSME	NT:													
•			ITY	R	EDUN	IDANCY	SCR	REENS			CIL ITEI			
	_	LIGH W/FU	NC	A		E	3	c	:	•	FIE	.ni		
NASA IOA	[3 [3	/3 /3]	[]] []		_		[]	*	
COMPARE	[/] .	[]	[]	[]		[]		
RECOMMEN	DATI	ons:	(Ii	dif	fere	ent fr	om N	(ASA)						
	[/	. 1	[]	[]	[]	(ADI	[D/DI		ETE)	
* CIL RE	TENT	ION	RATION	IALE:	(If	appl	icab		DEQUAT	E E	[]		
REMARKS:	DENÓ	TPC : :	r romagar a	TO THE SECTION		4.5		· ~	t =					

ASSESSME ASSESSME NASA FME):	CO	(- :		006 300-								Œ	[[x]				
SUBSYSTEMDAC ID:				11	006					ВА	NE) PAY	LOZ	ΑD	SYSTEM	ſ			
LEAD ANA	ALYS	T:	:	A.	w. <i>2</i>	ADI	DIS	5											
ASSESSMI	ent:																		
					•		RI	EDUN	DA	NC	Y	SCRE	ENS	3			CIL		
FLIGH HDW/FU							A				В			С		•			
NASA IOA]	3 3	/2R /2R]]	P P]		[P P]	[P P]		<u>[</u>]	*
COMPARE	[/]		(]		[]	[]		[]	
RECOMMEN	TADN	'IC	ONS:		(If	d:	if:	fere	nt	f	ro	om NA	SA)					
	[/]		[]		[]	[]	(AD	[D/D	EL.	ETE
* CIL RI	:			RAT	ION	ΑL	Е:	(If	' a ;	PF)1i	icabl		Al NAI	DEQUATE DEQUATE	E E	[[]	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/10/88 COMTRK-11007 05-6PH-24800-1	NASA DATA: BASELINE [] NEW [X]											
SUBSYSTEM: MDAC ID: ITEM:	11007	WORK SIGNAL PROCESSO	OR										
LEAD ANALYST:	A.W. ADDIS												
ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM													
HDW/FU	T NC A	ВС	TIEM										
NASA [3 /1R IOA [2 /1R] [P] [] [P]	NA] [P] P] [P]	[x] *										
COMPARE [N /	1 [] [и] []	[N]										
RECOMMENDATIONS:	(If different	from NASA)											
[2 /1R] [P] [[A] DD/DELETE)										
* CIL RETENTION	RATIONALE: (If ap	plicable) ADEQUATE INADEQUATE	[]										
REMARKS: IOA 11007 REFERS TO NSP ONLY, NASA FMEA COVERS ENTIRE S-BAND SYSTEM, AND RELATES THE 3/1R CRITICALITY TO LOSS OF THE TWO S- BAND PM STRINGS, LEAVING ONLY UHF VOIDE FOR STATE VECTOR UPDATES. A SINGLE FMEA CANNOT COVER ALL THE POTENTIAL DEGREES OF CRITICALITY FOR THE S-BAND PM SYSTEM. LOSS OF FIRST NSP DOWNLINK CALLS FOR MINIMUM DURATION FLIGHT, AND THUS QUALIFIES AS													

2/1R.

	COMTRK-11008		NASA DATA: BASELINE [] NEW [X]					
SUBSYSTEM: MDAC ID: ITEM:	COMM AND TRACK 11008 GCIL DRIVER, K		ГЕМ					
LEAD ANALYST:	A.W. ADDIS							
ASSESSMENT:								
CRITICAL: FLIGHT		ANCY SCREEN	15	CIL ITEM				
HDW/FUI		В	C					
NASA [/ IOA [3 /1R] [p]	[] [[P] [[] [P]	[] *				
COMPARE [N /N] [N]	[и]	[и]	[]				
RECOMMENDATIONS:	(If differen	t from NASA	A)					
[3 /1R] [P]	[P] ([P] (A)	[A] DD/DELETE)				
* CIL RETENTION	RATIONALE: (If	applicable)) ADEOUATIE	r i				
]	ADEQUATE INADEQUATE					
REMARKS: NO DIRECT COUNTED BAND PRIMARILY IN COMM FUNCTION. (S-BAND PM STRING CAUSE LOSS OF CRI BEFORE DE-ORBIT	N ITS ROLE AS A LOSS OF KU-BAND G 1 AND STRING EW/VEHICLE (INA	REDUNDANT COMM AND A PLUS UHF	PATH FOR THALL OTHER PAUL COURT	HE ON-ORBIT ATHS FOR COMM LD				

ASSESSI ASSESSI NASA FI	IEN'	r D. r I #:	ATE: D:		/88 RK-11 PH-24	009 800-	2	NASA DATA: BASELINE [] NEW [X]					
SUBSYST MDAC II ITEM:		:		11009	•			ND SY		EM.			
LEAD AM	IAL:	YST	:	A.W.	ADDI	S							
ASSESSI	ÆN:	r:											
	CI		ICAL LIGH	ITY	R	EDUN	DANCY	SCRE	ENS	;	CI	L EM	
				NC	A		E	.		C = = = = = = = = = = = = = = = = = = =		EPI	
NASA IOA	7	[2 [2	/2 /2]	[]	[]	[]		х] х]	*
COMPARE	Ξ	[/]	[3	[]	[]	[]	
RECOMME	ENDA	ATI	ons:	(II	dif	fere	nt fr	om NA	SA)				
	!	[/]	[]	E]	[] (.		DEL	ETE)
* CIL F		ent:	ION :	RATION	IALE:	(If	appl	icabl	•	ADEQUATE ADEQUATE		х ј ј	
	-												

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/10/88 NASA DATA: COMTRK-11010 BASELINE [] 05-6PH-24800-4 NEW [X]												
	COMM AND TRACK 11010 GCIL DRIVER, CO	CTV SYSTEM											
LEAD ANALYST:	A.W. ADDIS												
ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C													
HDW/FU	NC A	В	2										
NASA [2 /1R IOA [3 /1R	[P] [P]	[P] [F [P] [F	?]	[X] *									
COMPARE [N /] []	[] []	[N]									
RECOMMENDATIONS:	(If different	from NASA)											
(/] . []	[] [] . (A)	[] DD/DELETE)									
* CIL RETENTION	CIL RETENTION RATIONALE: (If applicable) ADEQUATE [X] INADEQUATE []												
REQUIRED FOR RMS													

	MEN	T I	D:	COM	TRK-11501 BASEI								LINE				
SUBSYS MDAC I ITEM:		:		115	M AN 01 CUIT												
LEAD A	NAL	YSI	1:	A.W	. ADI	DIS	3										
ASSESS	MEN	T:															
	С	F	'ICAL 'LIGH' W/FU	ľ		RI A	EDUI	NDA		ys B	CREEN		3		CII		
NAS IC	A A	[3	/1R /1R]	[P P]		[]	P] P]	[I	?] ?]		[[]	*
COMPAR	Œ	[/]	[]		[]	(•]		[]	
RECOMM	END	ATI	ONS:	(:	If d	iff	ere	ent	f	rom	NASA	7)					
		[/]	[]		[]	[•]	(A	[.DD/I] DELE	ETE)
* CIL REMARK	S:		mes er an vinen. "				·				•	A NA	ADEQU ADEQU	ATE	•]	
MO DIE	LUK	م الات	TO.						-	-				*****			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:			NASA DATA: BASELINE [] NEW [X]								
SUBSYSTEM: MDAC ID: ITEM:	COMM AND TRACK 11502 CIRCUIT BREAKE	•									
LEAD ANALYST:	A.W. ADDIS	A.W. ADDIS									
ASSESSMENT:											
CRITICAL: FLIGH	ITY REDUND	ANCY SCRE	ENS	CIL ITEM							
HDW/FU		В	C	.							
NASA [3 /3 IOA [3 /3] []	[]	[]	[] *							
COMPARE [/] []	[]	[]	[]							
RECOMMENDATIONS:	(If differen	t from NA	SA)								
[/] []	[.]	[]	[] ADD/DELETE)							
* CIL RETENTION : REMARKS: NO DIFFERENCES.	RATIONALE: (If	applicabl	e) ADEQUATE INADEQUATE								

ASSESSME	D:	2/08/88 COMTRK-21071X 05-2G-23510-1								NASA DATA: BASELINE [] NEW [X]									
	SUBSYSTEM: COM MDAC ID: 210 ITEM: SWI										NNA F	ROTAL	RY	SE	LEC	тог	.		
LEAD ANA	LYS	ST	:	A.	W. A	DI	DIS	5								-			
ASSESSME	ENT:	:															* ; .	٠.	
	CR		ICAL:				RI	EDUI	NDAI	1C.	Y SCF	REENS	3				CI		
	I	_	LIGH' W/FU				A]	В		С	21.53			IT	1M	
NASA IOA	[3	/2R /2R]		[P P]	[[NA] NA]	[P P]			[]	*
COMPARE	[/]		[]	Į	•]	[]			[]	
RECOMMEN	IDA'	ri	ons:		(If	d:	ifi	er	ent	f	rom N	IASA))						
	1		/]		[-]		•	j	[]		(AI	[[′] DD/1) DELI	ETE)
* CIL RE		-	- 1. Ch 1 1 1 1 1 1 1		IONA	L	€:	(İ:	f ar	p.	licab				UAT UAT				
NOT COVE	EREI)	IN I	DA.															

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-21	072X 10-2		NASA DATA BASELINE NEW									
	COMM AND 21072 SWITCH, Q		ENNA ROTA	ARY SELECTO	R								
LEAD ANALYST:	A.W. ADDI	S											
ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL ITEM													
HDW/FU			В	С	4. 4. 4. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.								
NASA [3 /2R IOA [3 /2R	[P] [NA] NA]	[P] [P]	[] *								
COMPARE [/] [] []		[]								
RECOMMENDATIONS:	(If dif	ferent	from NAS	A)									
ι /] [] ,[]	[] (A)	[DD/DELETE)								
* CIL RETENTION REMARKS:		(If ap) ADEQUATE INADEQUATE	[]								
NOT COVERED IN I	UA.												

ASSESSME ASSESSME NASA FME	NT II			K-21				1	NASA BASE	LINE			
SUBSYSTE MDAC ID:			COMM 21073 SWITC				INA R	OTAR	SEL	ЕСТО	R		
LEAD ANA	LYST	:	A.W.	ADDI	:s					-			
ASSESSME	NT:						,						
	CRITI			R	EDUN	DANCY	SCR	EENS			CII		
		LIGH V/FU		A		F	3	(3		111	PI	
NASA IOA	[2 [2	/2 /2]	[]]]	[[]		K]	[]	*
COMPARE	[/]	[]	Ţ]	ſ]		[]	
RECOMMEN	DATIC	ns:	(If	dif	fere	nt fr	om N	ASA)					
	[/]	Ĺ]	ſ]	[]	(A	[DD/I] ELE	TE)
* CIL RE				ALE:	(If	appl	icab.	′ 1	ADEQU ADEQU	ATE	[X	;]]	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/09/88 COMTRK-21 05-6PG-21	074X 804-3			ASA DATA BASELINE NEW									
	COMM AND 21074 SWITCH, N		RYPTIO	N POWEI	R ON-OFF									
LEAD ANALYST:	A.W. ADDI	S												
ASSESSMENT:														
CRITICALITY REDUNDANCY SCREENS CIL ITEM														
HDW/FU		L	В	С			•••							
NASA [3 /3 IOA [3 /3] []	[]]]	[[] *							
COMPARE [/] [3	[]	[]	[]							
RECOMMENDATIONS:	(If dif	ferent	from	NASA)										
[/] [] ′	[.].	[] (A] ELETE)							
* CIL RETENTION REMARKS:	RATIONALE:	(If a	pplica	A.	DEQUATE DEQUATE]							
NOT COVERED IN I	OA.													

ASSESSME ASSESSME NASA FME	NT NT A	D2 II #:	\Т):	E:	2/ CC 05	09/ MTR 5-6P	88 K-: G-:	21(23!	075X 528-	2					ASA D BASEI	INI] 2	_]	
SUBSYSTE MDAC ID: ITEM:					23	L075					ΙΙ	ANTE	NNA	E	LECTR	ON	cs	POW	ER
LEAD ANA	LY	ST	:		Α.	.w.	AD	DI	5										
ASSESSME	NT	:																	•
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C																			
	HDW/FUNC]	В		C		* ***	. =		
NASA IOA	[3 3	/	2R 2R]]	P P]]]	NA] NA]	[[P P]		[]	*
COMPARE	[/]		[]	[]	[]		[]	
RECOMMEN	'DA'	ric	NC	s:		(If	đ:	if	fere	nt	f:	rom N	ASA))					
•	٦.		/]	,	[1.	[]	[]	(Ā	[\DD/	DEL	ETE)
* CIL RE	TE	ניבית	[0]	N I	RAT	NOI	ALI	€:	(If	ap	p.	licab		ΑI	DEQUA DEQUA	TE	[]	
REMARKS: NOT COVE	REI	נס	ΣN	I	DA.									- '-	•	-	•		

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	COMTRK-	-210)76X 528-2		NASA DATA BASELINI NEV		
	COMM AN 21076	נ מא	TRACK		NA ELECTRON	ICS P	POWER
LEAD ANALYST:	A.W. A	DDIS	5				
ASSESSMENT:							
CRITICA FLIG HDW/F	HT	RI A	EDUNDA	NCY SCRE	ENS C	CIL	
•			1	[NA]	[P]	[] *
IOA [3 /2	R] R]	P	í	[NA]	[P]	Ĭ	j
COMPARE [/]	[]	[]	[]	[]
RECOMMENDATIONS	: (If o	difi	ferent	from NA	SA)		
[/]	[.]	[]		[ADD/D] ELETE
* CIL RETENTION REMARKS:	RATIONA	LE:	(If a	pplicabl	e) ADEQUATE INADEQUATE]
NOT COVERED IN	IOA.						

ASSESSMEI ASSESSMEI NASA FME	NT I	D:	21 12	077X 08-1							DATA ELINE NEW	[
SUBSYSTEM MDAC ID: ITEM: SELECT	M:		COMM 21077 RELAY					P M		NSP(SIGN	AL	STRI	ength
LEAD ANA	LYST	:	A.W.	ADI	DIS	5										
ASSESSME	SESSMENT:															
(F	LIGH	ITY T NC		RI A	EDUNE	AN	CY B	SCR	EEN	s C			CI		
		•									_	_		_	_	
NASA IOA	[3	/1R /1R]	[P]	[N2	Y]	[P]		[]	*
COMPARE	[/]	[]	[N]	[]		[]	
RECOMMENI	DATI	ons:	(If	d:	ifi	feren	t:	fro	om N	ASA))					
	RECOMMENDATIONS: (If differen]	(Al	[DD/1] DELE	ETE)
* CIL RET	PENT:	ION I	RATION	Ξ:	(If	apj	pli	cab				JATE JATE	[]		
NOT COVER	RED :	IN IC	DA.													

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:				NASA DATA BASELINE NEW	
	COMM AND 1 21078 DIODE, NS		ION SE	LECT CIRCUI	
LEAD ANALYST:	A.W. ADDI	s			
ASSESSMENT:					
CRITICAL FLIGH	ITY R	EDUNDANCY	SCREE	NS	CIL ITEM
HDW/FU		В		C	1111
NASA [2 /2 IOA [2 /2] [] []	[]	[X] *
COMPARE [/] [] []	[]	[]
RECOMMENDATIONS:	(If dif	ferent fr	om NAS	A)	
[/] [] []	[]	[] ADD/DELETE
* CIL RETENTION REMARKS:		(If appl		ADEQUATE	•
NOT COVERED IN I	OA.				

	2/12/88 COMTRK-21 05-2G-228				ASA DATA BASELINI NEV]							
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 21079 RESISTOR,					OICAT	or.							
LEAD ANALYST:	A.W. ADDI	S												
ASSESSMENT:														
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM														
HDW/FU			В	С		TTE	· ·							
NASA [3 /3 IOA [3 /3] []	[]	[]	[] *]							
COMPARE [/] []	[]	[]	[]							
RECOMMENDATIONS:	(If dif	ferent	from N	ASA)										
[/] []	[]	[[\DD/E	l ELETE)							
* CIL RETENTION REMARKS: NOT COVERED IN I		(If a	pplicab	A	DEQUATE DEQUATE]							

ASSESSME ASSESSME NASA FME	NT I	D:	COM	RK-22	514X 21-1			N	IASA DA BASELI N]	
SUBSYSTE MDAC ID:			2251	AND 1 L4 CUIT, 1			AN,	FM SY	STEM				
LEAD ANA	LYST	' :	A.W.	ADDI	S								
ASSESSME	ENT:												
		'ICAI 'LIGH		R	EDUN	IDANCY	SCR	EENS			IL TEN	Ø.	
	_		NC	A		В			2	•		•	
NASA IOA	[3 [3	/3]	[]	[[]	[]	[:]	*
COMPARE	[/]	[]	[]	[]	[]	
RECOMMEN	IDATI	ONS:	(:	[f dif	fere	ent fr	om N	(ASA)					
	[/]	[]	[]	[]] (ADI	DJ/DI] ELE	ETE
* CIL RI	:			ONALE:	(If	appl	icab	Į	ADEQUAT ADEQUAT	'E ('E ([]	
NOT COVI	SRED	IN]	UA.										

ASSESSMI ASSESSMI NASA FMI	ENT	I		CC	MTR	K-:										DATA ELINI NEV	E [x]	
SUBSYSTI MDAC ID ITEM:				23	3032					PA	YI	LOAD	PN	L/(CMD	GCI	L			
LEAD AN	ALY	ST	:	Α.	.w. 2	AD:	DI	5												
ASSESSMENT:																				
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM																				
	W/FU			A				В			С				. <u>1 E</u> P.	1				
NASA IOA	[3 3	/1R /1R]]	P P]]	P P]]	P P]		[]	*
COMPARE	[/]		[]		[]	[]]	
RECOMMEN	IDA'	rI	ons:		(If	d:	if	fere	nt	: f	rc	om NA	ASA))						
	[/]		[]		[]	[]	(2)/DE		TE)
* CIL RI	ETE:	NT:	ION 1	RAT	NOI	ÅĽ	E:	(If	a	pp	li	[cab]				JATE JATE]	
REMARKS:		D :	IN I	OA.												- ;			-	

ASSESSME ASSESSME NASA FME	NT I		COM	TRK-	230	033X 830 - 2						DATA ELINE NEW	[x]		
SUBSYSTE MDAC ID: ITEM:			230	33		rack -band		ΑΥΙ	_OAD	PNI	L/CME	GCIL	ı			
LEAD ANA	LYST	:	A.W	. AD	DI	S										
ASSESSME	NT:															
	-	ICAL LIGH W/FU	T		Ri A	EDUND	ANC	CY B	SCRI	EENS	C		CI	L EM		
NASA IOA	[3 [3	/2R /2R]	[P]	[P P]]	P] P]		[:) *]	
COMPARE	[/]	(•]	[]	[]		[]	
RECOMMEN	DATI	ons:	(If d	lif	feren	nt i	fro	om Ni	ASA)	1					
	[/]	{]	Ţ]	[]	(A		/DE		E
* CIL RE	TENT	ON	RATI	ONAI	Æ:	(If	apı	pli	icab			UATE UATE	[:]	
LATERIALITY .																

NOT COVERED IN IOA.

ASSESSME ASSESSME NASA FME	ENT :	ID:		K-24				ì		DATE ELINI NEV] X]	
SUBSYSTE MDAC ID:			COMM 24062 KU BI	}			FACE	AND (CONT	ROL U	JNIT)	
LEAD ANA	LYS'	T:	W.C.	LONG									
ASSESSME	ENT:												
		TICAL FLIGH	ITY	R	EDUN	DANC	SCR	EENS			CI:		
	-	DW/FU		· A		I	3	C	3 144			ÇM.	
NASA IOA	[:	2 /2 2 /2]	[]	[[]	[]		[]	x] x]	*
COMPARE	[/	1	[]	[]	[]		[]	
RECOMMEN	IDAT:	ions:	(If	dif	fere	nt fi	com N	'ASA)					
	[/]	[]	[]	[]	(2	[ADD/1	DEL.	
* CIL RE	TEN'	TION	RATION	ALE:	(If	app]	licab	A		UATE		X]	
REMARKS:		ES IN	AGREE	MENT					- 	, = -	·	J	

ASSESSMI):	: 3/14/88 COMTRK-24063X									E []			
NASA FMI	EA #:		05-2	R-520	0-3					NEW	[X]	
SUBSYSTI MDAC ID: ITEM:			2406	I AND 3 LA-2 (NAL	PROCI	SSOR)				
LEAD ANA	ALYST:		W.C.	LONG										
ASSESSMI	ENT:													
	CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM													
		/FU		A		В	;	С				LEV	•	
NASA IOA	[2 [2	/2 /2]	[]	[]	[]		[X]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	NDATIC	ns:	(1	f dif	fere	nt fr	om N	ASA)						
	[/]	[]	[]	[]	(A] DD,	/DE] ELF	ETE
* CIL R		ON	RATIC	NALE:	(If	appl	icab	1	DEQU			x]	
REMARKS:	-	IN	AGRE	EMENT										

ASSESSMENT DATE: 3/14/3 ASSESSMENT ID: COMTRI NASA FMEA #: 05-2R					ITRK	-24		x			N		DATA LINE NEW	[x]	
SUBSYSTE MDAC ID:				CON 240 KU	64					D EL	ECTRO	NIC	ASSY)			-
LEAD ANA	LY	ST	:	w.c	. L	ong											
ASSESSME	ENT	:															
		F	LIGH	T				NDA			REENS		- routjita	CI IT		Ī	
	1	HDI	W/FU	NC		A			E	3	C						
NASA IOA	[[2 2	/2 /2]		[[]		[[]	[]]	X X]	*
COMPARE	[/]		[]		[]	[]		[]	
RECOMMEN	IDA!	TI	ons:	((If	dif:	fere	ent	fr	om N	IASA)						
	[/]		[]		[]	[]	(Al	[DD/	DE] :LE	TE)
* CIL RETENTION RATIONALE: REMARKS:						LE:	(II	fa	ppl	icab.	A		ATE ATE	[X]	
CRITICAL		IE	S IN	AGF	REEM	ENT				÷							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/14/88 COMTRK-240652 05-2R-5300-6	NASA DATA: BASELINE [] NEW [X]									
SUBSYSTEM: MDAC ID: ITEM:	COMM AND TRAC 24065 KU BD DEA (DI		C ASSY) THERMOSTATS								
LEAD ANALYST:	W.C. LONG		e e								
ASSESSMENT:											
CRITICAL FLIGH	CIL ITEM										
HDW/FU	NC A	в с									
NASA [2 /1R IOA [2 /1R] [P]] []	[P] [P]	[X] * [X]								
COMPARE [/] [N]	[N] [N]	[]								
RECOMMENDATIONS:	(If differe	ent from NASA)									
[/	[] (ADD/DELETE)										
* CIL RETENTION	RATIONALE: (I		QUATE [X] QUATE []								
REMARKS: CRITICALITIES IN	MARKS: ITICALITIES IN AGREEMENT.										

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/14/88 COMTRK-2 05-2R-53	24066X 300-7		NASA DATA: BASELINE NEW								
SUBSYSTEM: MDAC ID: ITEM: SENSOR	COMM AND 24066 KU BD DM			RONIC ASSY)	TEMPERATURE							
LEAD ANALYST:	W.C. LON	1G										
ASSESSMENT:												
		REDUNDANG	S	CIL ITEM								
FLIGH HDW/FU	NC	A	В	С	ITEM							
NASA [2 /2 IOA [3 /2F] [P] [P] [p]	[X] * []							
COMPARE [N /N] [N] [N] [N]	[N]							
RECOMMENDATIONS:	(If di	ifferent f	from NASA)								
[3 /2F	j (P] [P] [P] (AI	[D] DD/DELETE)							
* CIL RETENTION	RATIONALE	E: (If app	olicable)									
1-21 Add 804 1				ADEQUATE NADEQUATE	[X]							
FAILURE, THE THE RESULTING IN DAM	SS OF MEASUREMENT DOES NOT HINDER HEATER OPERATON. A SECOND ILURE, THE THERMOSTAT, COULD ALLOW FOR OVERHEATING OR FREEZING SULTING IN DAMAGE TO GIMBAL THUS JEOPARDIZING THE SECURING OF											
	-				•							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-250	15X	NASA DATA BASELINE NEW									
SUBSYSTEM: MDAC ID: ITEM:	25015		ARY SELECTOR									
LEAD ANALYST:	A.W. ADDIS											
ASSESSMENT:												
CRITICALITY REDUNDANCY SCREENS CIL ITEM												
HDW/FU		В	C	1154								
NASA [2 /1R IOA [2 /1R] [P [P] [P]	[P] [P]	[X] * [X]								
COMPARE [/] [] []	[] .	[]								
RECOMMENDATIONS:	(If diff	erent from	NASA)									
[/] [ן נ	[] (A	[] DD/DELETE)								
* CIL RETENTION	RATIONALE:	(If applic		r 1								
			ADEQUATE INADEQUATE									
CRITICALITY 2/2												

ASSESSME ASSESSME NASA FME	NT D NT I A #:	ATE: D:	2/02/8 COMTRI 05-2B-	2/02/88 NASA DATA: COMTRK-25016X BASELINE [05-2B-22101-2 NEW [X]		
SUBSYSTE MDAC ID: ITEM:			25016						LECTOR				
LEAD ANA	LYST	:	A.W. 1	ADDI	s								
ASSESSME	NT:												
		ICAL	TY.	R	EDUND	ANCY	SCRE	ENS		C:	IL FEN		
	_		4C	A B				C	2	.	LISI	1	
NASA IOA	[2 [2	/2 /1R]	[]	[]]]	[X X]	*
COMPARE	[/N]	[]	[]	[]	[]	
RECOMMEN	DATI	ons:	(If	dif:	feren	t fr	om NA	SA)					
	[/]	[1	[]	[]	[(ADD,	/DI		TE)
* CIL RE	TENT	ION I	RATION	ALE:	(If a	appl	icable	A	DEQUATI] E]	
REMARKS: NOT COVE CRITICAL								Α.	NOTE:	FME	A <i>I</i>	ASS	

UPDATES ARE NEEDED.

ASSESSME ASSESSME NASA FME	ID:	TRK-2	-25017X BASELINE []												
SUBSYSTEMDAC ID:			250	17		RACK F MODE	R	OTAR!	(SE	LECTOR					
LEAD ANA	LYS	T:	A.W	. ADI	ois										
ASSESSME	NT:														
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM															
		DW/FU			A		В		(С				•	
NASA IOA	[[2 /1F 2 /1F	?] ?]	[P P] [P P]	[]	P] P]		[X X]	*
COMPARE	[/]	[] []	[]		[]	
RECOMMEN	DAT	CIONS	; ([If d	iff	erent	fr	om Ni	ASA)						
	[/]	[] []	[]	(A		/DE		TE)
* CIL RE	(ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []														
CRITICAL															

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/02/88 COMTRK-2 05-2B-22	-25018X BASELINE [] 22101-5 NEW [X]										
SUBSYSTEM: MDAC ID: ITEM:	25018		ROTARY SE	ELECTOR								
LEAD ANALYST:	A.W. ADI	ois										
ASSESSMENT:												
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM												
	NC	A	В	C	1154							
NASA [2 /1R IOA [2 /1R] [P] [P] [P] [P] [P] P]	[X] *							
COMPARE [/] [] [] []	[]							
RECOMMENDATIONS:	(If di	fferent f	from NASA)									
[/	J [] [) [[] DD/DELETE)							
* CIL RETENTION I	RATIONALE	: (If app		ADEQUATE	- · · · · · · · · · · · · · · · · · · ·							
DEMARKS.			IN	ADEQUATE								
EMARKS: OT COVERED IN IOA. FOR ON-ORBIT EVA OPS INABILITY TO SELECT UHF ODE COULD CAUSE MISSION LOSS (2/2). FOR DE-ORBIT/LANDING LOSS F ALL PATHS FOR STATE VECTOR UPDATE (S-BAND PM AND UHF VOICE) OULD CAUSE LOSS OF CREW/VEHICLE.												

ASSESSMEN ASSESSMEN NASA FMEA	D:	2/10/88 COMTRK-25019X 05-2A-21948-1						NASA DATA: BASELINE [] NEW [X]							
SUBSYSTEM MDAC ID:			2503	L9				·TO·	-AIR	(Al	JDIO	CENTE	ER)		
LEAD ANA	LYST	!:	A.W	. AD	DIS	3									
ASSESSME	NT:														
CRITICALITY REDUNDANCY SCREENS CIL ITEM															
		W/FU		A B C											
NASA [3 /1R] IOA [3 /1R]]]]	P]	[P P]]	[]	*
COMPARE	[/]	[]	[]	[•]	[]	
RECOMMEN	DATI	ons:	(:	If d	if	fei	rent	fr	om N	IASA)				
	Ţ	/]	[]	[•]	[•] (2	[ADD/	DEL.	
* CIL RE				LANC	E:	(:	If ag	pl	icab			EQUATE EQUATE]	
NOT COVE	RED	IN I	OA.												

ASSESSME ASSESSME NASA FME					5020X 948-2			1	NASA 1 BASE:	DATA: LINE NEW	[:	x]	
SUBSYSTE MDAC ID: ITEM:			250	20		K IR-TO-	-AIR	(AUI	DIO C	ENTER	.)		
LEAD ANA	LYST	:	A.W	. ADD	IS								
ASSESSME	NT:												
,	F	LIGH'	ľ			DANCY	SCR	EENS			CII ITI		
	HD	W/FU	NC	1	A	В		(3	:			
NASA IOA	[2	/1R /1R]	[]	P] P]	[P [P]	[I	?]		[]	K]	*
COMPARE	[/	1	[]	[]	[]		[]	
RECOMMEN	DATI	ons:	(If di	ffere	nt fro	om N.	ÀSA)					
	ľ	/]	[]	[]	[]	(AD	[D/I) DEL	ETE)
* CIL RE	TENT	ION 1	RATI(ONALE	: (If	appli	.cab		ADEQU2	ATE	r 2	x 1	
REMARKS:								INA	ADEQUA ADEQUA	ATE	<u>.</u>	j	
MOT COVE	חשם	TN TO	ገል .										

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-2			NASA DATA: BASELINE [] NEW [X]							
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 25021 SWITCH,			TO-	-AIR ((AU	DI	O CENTE	R)		
LEAD ANALYST:	A.W. ADI	DIS	5								
ASSESSMENT:											
CRITICAL FLIGH	ITY T	CY	SCRE	ENS	;		CIL				
HDW/FU		A		В			С				
NASA [3 /1R IOA [3 /3] [P] [P]	[P]	[] *	
COMPARE [/N] [N) [N]	[N	1	[]	
RECOMMENDATIONS:	(If d	iff	ferent	fro	om NAS	SA)					
[/] [] []	[] (A	[DD/D] ELET	E)
* CIL RETENTION REMARKS:	RATIONALI	E :	(If ap	pl:	icable			EQUATE EQUATE	[]	
NOT COVERED IN I	OA.										

ASSESSMENT I ASSESSMENT I NASA FMEA #	D:		-250						DATA: ELINE NEW	[
SUBSYSTEM: MDAC ID: ITEM:		COMM A 25022 SWITCH			R-TO∙	-AIR	(AU	DIO	CENTER	٤)		
LEAD ANALYS	r:	A.W. A	DDIS	5								
ASSESSMENT:												
	CICAL	ITY I	RI	EDUNDA	ANCY	SCREI	ens			CIL		
н	W/FUI	1C	A		В	C 1.2						
NASA [3	3 /1R 3 /1R]	[P [P]	[P]	[[P] P]		[] '	t
COMPARE [/]	[]	[]	[]		[]	
RECOMMENDATI	ons:	(If	difi	ferent	fro	om NAS	SA)					
[/]	[]	[]	[]	(AD	[D/DI] ELET	re)
* CIL RETENT	NOI!	RATIONA	LE:	(If a	appl:	icable	-		JATE JATE	[[]	
REMARKS: NOT COVERED	IN IC	DA.								•	,	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-25			A DATA: SELINE [] NEW [X]					
SUBSYSTEM: MDAC ID: ITEM:	COMM AND '25023 SWITCH, U		-AIR (AUDIO	CENTER)					
LEAD ANALYST:	A.W. ADDI	S							
ASSESSMENT:									
CRITICAL: FLIGH HDW/FU	T	EDUNDANCY B	SCREENS C	CIL ITEM					
NASA [2 /1R IOA [2 /1R] [P	[P] [P]	[X] * [X]					
COMPARE [/] [] [] []	[]					
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)						
[/] [] [] []	[] (ADD/DELETE					
* CIL RETENTION REMARKS:	RATIONALE:	(If appli		QUATE [X] QUATE []					

NOT COVERED IN IOA.

ASSESSME ASSESSME NASA FME	NT I	D:		K-25				NASA DAT BASELII NI			
SUBSYSTE MDAC ID: ITEM:			25024				-AIR	(AU	DIO CENT	TER)	
LEAD ANA	LYSI	?:	A.W.	ADDI	S						
ASSESSME	NT:										
		'ICAL 'LIGH'	ITY	R	DANCY	SCRE	ENS		CIL		
			NC	A		В			С	ITE	M
NASA IOA	[3	/3]	[]	[]	[]	[[] *
COMPARE	C	/]	[]	[]	[]	[]
RECOMMEN	DATI	ons:	(If	dif:	feren	nt fr	om NA	SA)			
	[/]	[]	[]	[. 1	[(ADD/D] ELETE)
* CIL RE	TENT	'ION	RATION	ALE:	(If	appl	icabl		ADEQUATE ADEQUATE]
REMARKS:											J

NOT COVERED IN IOA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-270			NASA DATA BASELINI NEV]
SUBSYSTEM: MDAC ID: ITEM:	COMM AND T 27052 TACAN ID S					
LEAD ANALYST:	W.C. LONG					
ASSESSMENT:						
CRITICAL		EDUNDANCY	SCREEN	5	CIL	
FLIGH HDW/FU		В		С	IIE	r.
NASA [3 /3 IOA [3 /3] [] [] []	[] *
COMPARE [/] [] [] [1	[]
RECOMMENDATIONS:	(If diff	ferent fro	om NASA)		
[/] [1 [.] [] (2	[ADD/D] ELETE
* CIL RETENTION REMARKS: NOT COVERED IN I		(If appl:		ADEQUATE NADEQUATE	[X	[]

ASSESSME ASSESSME NASA FME	NT I	D:	COMI				NASA BASE	LINE		•			
SUBSYSTE MDAC ID: ITEM:			2705	I AND 3 N ID									** •
LEAD ANA	LYST	: :	W.C.	LONG	+					=====	PARES		
ASSESSME	NT:									Ī	i e e e e		
			YTI	R	EDUN	IDANC	SCR	EENS			CII	_	
		LIGH W/FU	NC	A		I	3	•			ITE	M	
NASA IOA	[3	/3]	[]	[]	[]		[] *	
COMPARE	[/]	[]	[1	[]		[]	
RECOMMEN	DATI	ons:	(I	f dif	fere	ent fi	com N	ASA)					
	[/]	[Ĩ]	[] .	(A:	[DD/D] ELETE	:)
* CIL RE	TENT	NOI	RATIC	NALE:	(If	app]	licab		ADEQU ADEQU		[X]	
REMARKS:	RED	TN T	OA.			·						J	

ASSESSMI ASSESSMI NASA FMI	ENT	II		COMT	/88 RK-270 A-2191				Ŋ		DATA: LINE NEW	[•	
SUBSYST				COMM 2705 TACAI										
LEAD AN	ALYS	ST:	:	W.C.	LONG									
ASSESSM	ENT:	:												
	CRI			ITY	RI	DANCY	SCR	EENS			CII			
	F		LIGH W/FU	NC	A		E	3	(2		111	5PI	
NASA IOA	[3	/3 /3]	[[]	[]	[[]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMME	NDAT	ric	ONS:	(I	f dif	fere	nt fr	om N	ASA)					
	[/	J	ſ]	[]	[]	(Al		·]	ETE)
* CIL R REMARKS	:				NALE:	(If	appl	icab	1	ADEQU ADEQU	ATE ATE	[]	x]	

ASSESSME ASSESSME NASA FME	TY	I	D:	CON	14/88 MTRK-27 -2A-219				ļ	NASA Base		[; ;]	
SUBSYSTE MDAC ID: ITEM:				270										
LEAD ANA	LYS	ST	:	W.C	. LONG									
ASSESSME	NT:	:												
			ITY	R	IDANCY	SCF	REENS			CII				
	F		LIGH W/FU	NC	A		E	3	C	3 7 .		ITE	.PI	
NASA IOA	[3 3	/3 /3]] []	[]	[]		[]	*
COMPARE	[/]	Ţ]	[]	[]		[]	
RECOMMEN	DAT	CIC	ons:	(If dif	fere	nt fr	om N	(ASA)					
	[/]	ľ]	[]	` [] .	(AI	[DD/E] ELE	TE)
* CIL RE	CIL RETENTION RATIONALE: (If applicable) ADEQUATE [X] INADEQUATE [] EMARKS:													
NOT COVE	DEL	١ ١	TN T	Λā										

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:												
	COMM AND TRACK 27056 TACAN											
LEAD ANALYST:	W.C. LONG											
ASSESSMENT:												
CRITICAL FLIGH		CY SCREENS	CIL ITEM									
HDW/FU	NC A	ВС										
NASA [2 /1R IOA [1 /1	[P] [E] [] [] [P] [P]	[X] * [X]									
COMPARE [N /N] [N][и] [и]	[]									
RECOMMENDATIONS:	(If different	from NASA)										
[1 /1] [] [] [] _. (A	[] DD/DELETE)									
* CIL RETENTION	(ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [X] INADEQUATE []											
STATE VECTOR UPD	ATE CAPABILITY, B	R UHF VOICE LINK SH UT UNDER WORST CASE VECTOR UPDATE CAPAB	OULD PROVIDE CONDITIONS									

LOSS.

ASSESSME ASSESSME NASA FME	NT I	D:	COMTE	K-27				1		DATA LINE NEW	[) x]	
SUBSYSTE MDAC ID: ITEM:	M:		COMM 27057 TACAN	1	TRAC	K							
LEAD ANA	LYST	':	W.C.	LONG	+								
ASSESSME	NT:												
•		'ICAL 'LIGH	ITY	R	EDUN	DANCY	SCR	EENS			CII	_	
		W/FU		A	•	E	3	c	2		111	7M	
NASA IOA	[1	/1]	[[]	[]	[[]		[]	K]	*
COMPARE	[/]	[]	[]	[]		[J	
RECOMMEN	DATI	ons:	(If	dif	fere	nt fr	om N	ASA)					
	ľ	!	1	[]	[]	. []	(Al] DELI	ETE)
* CIL RE	TENT	ION :	RATION	ALE:	(If	appl	icab.	A		ATE ATE	[2	k]	
CRITICAL	ITIE	S AR	E IN A	GREE	MENT	•							

ASSESSMENT DATE: 3/14/88 ASSESSMENT ID: COMTRK-2705 NASA FMEA #: 05-2C-23000														ASA DA BASELI N	NE]	
SUBSYSTE MDAC ID: ITEM:				270	58			raci Enna	ζ									
LEAD ANA	LYS	ST	:	W.C	. I	Oì	1G											
ASSESSMENT:																		
	FLIGHT							EDUNI	IAC	1CY	SCRE	ENS	5			CIL		
	HDW/FUNC									В			С			•		
NASA IOA	[3	/1R /1R]		[P P]		[P]	[P P]		[]	*
COMPARE	[/]		[]		[]	[]		[]	
RECOMMEN	IDA!	ric	ons:	(Ιf	đ:	if	ferei	nt	fr	om NA	SA)					
	[į]	-	[]		[]	[]	(AI	[(D/D		ETE)
REMARKS:	CIL RETENTION RATIONALE: (If applicable) ADEQUATE [X] INADEQUATE [] REMARKS: RITICALITIES ARE IN AGREEMENT.																	

ASSESSME ASSESSME NASA FME	NT I	D:	3/14/ COMTR 05-2D	K-2					ATA: INE [] NEW [X]
SUBSYSTEM MDAC ID:	M:		27059			CK TER, A		NNA	
LEAD ANA	LYSI	r:	W.C.	LON	G				
ASSESSME	NT:								en en en en en en en en en en en en en e
•	F	TICAL: FLIGHT			REDU:	ndancy B		REENS	CIL ITEM
	111	,,, <u>.</u> 0.		•	••		,	.	
NASA IOA	[2	/1R /1R]	[P] P]	[P]	[P] [P]	[X] * [X]
COMPARE	[/]	[]	[]	[]	[]
RECOMMEN	DATI	ons:	(If	di	ffer	ent fr	om	NASA)	
•	[1	1	[]	[]	[]	[] (ADD/DELETE)
* CIL RE	TENT	I NOI	RATION	ALE	: (I	f appl	ica	ble) ADEQUA INADEQUA	
CRITICAL	ITIE	S ARI	E IN A	GRE	EMEN'	r.			

ASSESSMENT DATE: 3/14/88 ASSESSMENT ID: COMTRK-27060X NASA FMEA #: 05-2F-22601-1													ASA DA BASELI N	NE]	
SUBSYSTI MDAC ID: ITEM:				COMM 2 27060 MSBLS					DE	ASSE	(B)	ĽY					
LEAD ANA	ALYS	ST :	;	W.C.	LOI	NG											
ASSESSMI	ENT	:															
			EDUND	AN		SCREI	ENS				CIL						
	I	HDV	/FUI	1C		A			В			С					
NASA IOA]]	3 3	/1R /1R]]	P P]	[P P]	[P P]		[]	*
COMPARE	[/]	[]	(•]	[]		[]	
RECOMME	NDA!	ric	ons:	(If	d	if:	feren	ıt	fr	om NA	SA;)					
	[/]	[]	(•	1	[]	(Al	[DD/D	ELJ	ETE)
* CIL RI	CIL RETENTION RATIONALE: (If applicable) ADEQUATE [X] INADEQUATE []																
	EMARKS: RITICALITIES ARE IN AGREEMENT.																

ASSESSME ASSESSME NASA FME	ENT I	ID:	3/14/ COMTR 05-2F	K-27			-	NASA DA BASELI N		[[X]		
SUBSYSTE MDAC ID: ITEM:			COMM 27061 MSBLS				ASSEI	MBI	.Y				
LEAD ANA	LYST	r:	W.C.	LONG	;								
ASSESSME	ENT:												
		rical: FLIGH	ITY F	F	REDUN	IDANCY	SCRE	ENS	}		CIL		
		OW/FU		Ā	\	В			C			-	
NASA IOA	[2	2 /1R 2 /1R]	[))	[P]	[P] P]		x] x]]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	[DAT]	cons:	(If	dif	fere	ent fro	om NAS	SA)					
	[/]	[]	τ,]	[J	(AD	[D/D:] ELE	ETE)
* CIL RE	TENT	rion 1	RATION	ALE:	(If	appl	icable		ADEQUAT	E	[X]	
REMARKS:		יסג פי	F TN A	ययवट	ישבאי	1 .	- ,	ΤN	ADEQUAT	E,	[J	

ASSESSMENT DATE: 3/14/88												N	ASA	DAT	A:	;				
ASSESSME					MTŔI	ζ- 2	27(062X]	BASI	ELIN	E	[]	
NASA FME	A #	:			5-2F-										NE	W	[X]	
	",	•															-			
SUBSYSTE	M:			CC	OMM A	M	D :	TRACK	7											
MDAC ID:					7062															
ITEM:						7	۱NA	renn <i>a</i>												
IIIM.				111	, محادر	•			•											
LEAD ANA	T.VS	· TT	,	W	.c. 1	ເດາ	NG													
DDIID IIIII		-	•	•••																
ASSESSME	NT:																			
	CRI	רידי	CAL:	יייז	7		RI	EDUNE	AN	CY	SCR	EEN	S				CJ	ΙL		
			IGH'		-						•						IJ	CEM	1	
	н		V/FU				A			В			С							
			.,	•	٠															
NASA	Г	3	/1R	1		Γ	P	1	٢	P	1	ſ	P]			[1	*
IOA			/1R	í		ř	P]	Ī	P	i	Ī	P	ī			Ĭ		j	
		•	,	•		٠	_	•	٠		•	•		•			•		•	
COMPARE	Ī		/	1		Г		1	[]	[]			[]	
	•		•	•		٠		•	•		•	•		,			_			
RECOMMEN	DAT	CIC	ons:		(If	d :	if:	ferer	nt	fr	om N	IASA)							
																			_	
	[/]		[]	[]	[]			[]	
												•			(ΑI)D/	/DF	ELE	ETE
												_								
* CIL RE	TEN	T	CON I	RA'	rion.	AL	Ε:	(If	ap	pl	icab	ole)								
															UATE		[X]	
												Ι	NA	DEQ	UATE	:	[]	
REMARKS:																				
CRITICAL	ITI	Œ	S AR	E :	IN A	GR:	EE	MENT.												

ASSESSME ASSESSME NASA FME	ENT	I	D:	COMT	RK-27	X -2		1		DATA LINE NEW	[]		
SUBSYSTE MDAC ID:				2706										
LEAD ANA	LYS	3T	:	W.C.	LONG									
ASSESSME	ENT:	:												
	CRI				R	EDUI	NDANCY	SCR	EENS			CII		
	ŀ		LIGH W/FU	NC	A		E	3	C		n ee noon eo	ITE	M	
NASA IOA]	3 3	/3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	[]	τ	1	Ţ]		[]	
RECOMMEN	IDA'I	ri(ons:	(I	f dif	fere	ent fr	om N	ASA)					
	[/]	[]	.[]	Γ]	(A)] DELE	ETE)
* CIL RE		VT:	ION	RATIO	NALE:	(I:	f appl	icab	7	DEQU	ATE ATE	[}	[]	
REMARKS: CRITICAL		Œ	s AR	E IN	AGREE	MENT	r. ·					V - 1		

ASSESSME	ASSESSMENT DATE: 3/14/88 ASSESSMENT ID: COMTRK-27064X IASA FMEA #: 05-6PF-22401-2							N	ASA DATA BASELINI NEV] c]
SUBSYSTE MDAC ID:	M:		2706	I AND ' 64 POWER							
LEAD ANA	LYSI	r:	W.C.	LONG							
ASSESSME	NT:										
		rical Fligh		R	EDUN	DANCY	SCR	EENS		CII	
		W/FU						C	:		
NASA IOA	[3	3 /3 3 /3]	[]] []	[]	[[] *]
COMPARE	[/]	[]	[1	ſ]	[]
RECOMMEN	DAT]	ions:	(1	f dif	fere	ent fro	om N	ASA)			
	[/]	[]	[]	[] (2] DELETE)
* CIL RE		rion	RATIO	NALE:	(If	appl	icab	Z	DEQUATE	[]	x]
REMARKS: CRITICAL		es ar	E IN	AGREE	MENT						

ASSESSME ASSESSME NASA FME		/14/ OMTR 5-6P	K-27				1		DATA LINE NEW	[]			
SUBSYSTE MDAC ID: ITEM:			2	OMM 7507 RADAR				RESIST		abatti R1				,
LEAD ANA	LYS	T:	V	i.c.	LONG									
ASSESSME	NT:													
			ALII GHT	Ϋ́	RI	EDUNI	ANC	SCRI	EENS			CII		
			FUNC	:	A		E	3	C	2		111	3PI	
NASA IOA	[3 / 3 /	'3] '3]		[]	[]	[]]]	*
COMPARE	ľ	/	']		[]	[]	[]		[]	
RECOMMEN	DAT	ION	rs:	(If	dif	ferer	nt fi	com NI	ASA)					
	[/	']		[]	[]	[]	(Al) DELE	ETE)
* CIL RE		TIC	N RA	TION.	ALE:	(If	app]	licab	1	ADEQU ADEQU	ATE ATE	[}	۲)]	
REMARKS: CRITICAL		ES	ARE	IN A	GREEN	MENT.								

ASSESSME ASSESSME NASA FME	MEA #: 2.4.4.1											DATA LINE NEW	[]		
SUBSYSTE MDAC ID: ITEM:	M:		COMM A 28377 PAN AN					r I	LIMIT	sv	VII	гсн				
LEAD ANA	LYST	:	W.C. I	O	IG											
ASSESSME	NT:															
	CRITICALITY REDUNI FLIGHT							CY	SCREE	ENS	5			CIL		
		W/FU			A			В			С					
NASA IOA	[3 [3	/3 /3]	[P]	[P]]	P]		[]	*
COMPARE	ι.	/]	[N]	[N]	[N]		[]	
RECOMMEN	DATI	ons:	(If	di	ifi	feren	t	fro	om NAS	SA))					
•	[/	1	[]	[]	[]	(A	[.DD/D		ETE)
* CIL RE		ION :	RATION	ALI	₹:	(If	ap	pl:	icable				ATE ATE	[X]	
REMARKS:																

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/16/88 COMTRK-: 2.4.4.2	28378X		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	28378		VIT LIMIT		A D
LEAD ANALYST:	W.C. LO	NG			
ASSESSMENT:					
FLIGH			NCY SCRE		CIL ITEM
NASA [2 /2 IOA [2 /1R] [p]	[] [P]	[] [P]	[X] * [X]
COMPARE [/N] [n j	[N]	[N]	[]
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)	
[2 /1R] [P]	[P]	[P] (A	[] DD/DELETE)
* CIL RETENTION	RATIONALI	E: (If a	ipplicable	ADEQUATE	[
REMARKS: UNLIKE REDUNDANC FOR CREW VISUAL RENDEZ AND STATI	INSPECTIO	ON, RMS			

ADDIDDITERT DITTE O/ 20/ 00									NASA DA BASELI	INE	: [[X]
SUBSYSTE MDAC ID:	M:		COMM 2 28379 PAN AN				LIMIT	swi	тсн			
LEAD ANA	LYS	T:	W.C. 1	Long								
ASSESSME	NT:											
		TICAL		R	EDUND	ANCY	SCRE	ENS			CIL	
	FLIGHT HDW/FUNC					В		C	2		115	
NASA IOA	[:	3 /3 3 /3]	[]	[]	[]		[] *]
COMPARE	[/]	[]	[]	[]		[]
RECOMMEN	DAT:	ions:	(If	dif	feren	t fr	om NA	SA)				
	[/]	Ţ]	[]	[]	(A	[DD/D:] ELETE)
* CIL RE	TEN'	TION	RATION	ALE:	(If	appl	icabl	2	ADEQUA'		[X]
AGREE.												•

ASSESSMI ASSESSMI NASA FMI	ENT ENT EA #	DATE: ID: :	3/16/3 COMTRI 4.4.4	88 K-28 .2	380X				NASA BASE			x]	
SUBSYSTI MDAC ID ITEM:	EM:		COMM 2 28380 PAN A									v ·	೨. ೭ ಕಳ	s2 t
LEAD AN	ALYS	T:	W.C.	LONG	,									
ASSESSMI	ENT:													
		FLIGHT	ITY r NC			ANCY B			c	, ···	CI		Ţ	
NASA IOA	[2 /1R 3 /2R]	[P]	[P [P]	[P] P]		[X] *	
COMPARE	[n /n]	[]	[]	[]		[N]	
RECOMMEN	TAD	ions:	(If	dif	feren	t fr	om NA	SA)						
	Ĩ	3 /2R]	[]	[]	[]	(AI	[DD/	D DE] LET	E)
* CIL RI		TION F	RATION	ALE:	(If	appl:	icabl	e) IN	ADEQU ADEQU	ATE ATE	[x]	
RMS TVC MONITORI REDUNDAN CREW VIS RADAR FO	DOE ING NCY SUAL	RMS MO PROVII INSPI	OVEMENT DED VIA	r an A CR , RM	D P/L EW WI S JET	BAY NDOW TISON	DOOR VIEW	LA ING	TCH C	LOSUF AND	CO	AS	UNL FO	IKE R

ASSESSME ASSESSME NASA FME	NT ID:	COMTRI	K-28381	LX		NASA D BASEI		[[
SUBSYSTE MDAC ID: ITEM:	M:	COMM 2 28381 MONOCE			SEMBLY	IRIS LI	MIT	swi	тсн	
LEAD ANA	LYST:	W.C. 1	LONG							
ASSESSME	NT:									
	CRITICAL FLIG		REDU	JNDANCY	SCREE	NS		CII		
	HDW/F		A	В		С				
NASA IOA	[3 /3 [3 /3]	[]	[]	[]		[] '	k
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	DATIONS	: (If	diffe	rent fr	om NAS	A)				
	[/	1	[]	[]	[]	(A)	[DD/I] DELET	re)
* CIL RE	TENTION	RATION	ALE: (If appl		ADEQUA		[]	хj	
REMARKS:						INADEQUA	ATE	l	J	

NASA FMEA #: SUBSYSTEM:	3/16/88 COMTRK-28 3.1.6.4 COMM AND 28382 MONOCHROM	TRACK	SEMBLY	BASI	DATA: ELINE NEW	χĵ	
LEAD ANALYST:	W.C. LONG						
ASSESSMENT:							
CRITICAL FLIGH HDW/FU	T	edundancy B		ns C		CIL I TEM	
·		, ,	•			r	1 A
NASA [3 /3 IOA [3 /3] [] []			[] *]
COMPARE [/] [] [1	[]		[]
RECOMMENDATIONS:	(If dif	ferent fr	om NAS	A)			
[/] [] []	[]	(AD)	[D/DE] LETE)
* CIL RETENTION REMARKS: AGREE.	RATIONALE:	(If appl			JATE JATE	(X]

ASSESSME ASSESSME NASA FME	NT	ID:		TRK-283	83X				ASA DA BASELI N	NE [x]
SUBSYSTE MDAC ID:			2838	M AND T 33 OCHROME			SEME	BLY IR	is LIM	IT SW	ІТСН
LEAD ANA	LYS	T:	W.C	LONG							
ASSESSME	NT:										
	TICAL	${f T}$		EDUN	DANCY B		REENS	,	CI II	L EM	
	н	IDW/FU	NC	A		B		C	•		
NASA IOA	[[3 /3 3 /3]	[]	[]	[]	[] *]
COMPARE	[/]	[]	[]	. []	Γ]
RECOMMEN	TACI	cions:	(:	rf difi	fere	nt fr	om 1	NASA)			
	Ţ	/]	[]	[]	[]	[(ADD/] DELETE
* CIL RE		TION	RATIO	ONALE:	(If	appl	ical	A	DEQUAT		x]

AGREE.

ASSESSMENT ID: NASA FMEA #:	3/16/88 COMTRK-2838	34X	BASELINE	
NASA FMEA #:	2.1.6.4		NEW	įχj
SUBSYSTEM: MDAC ID: ITEM:	28384	RACK LENS ASSEMBLY	IRIS LIMIT	SWITCH
LEAD ANALYST:	W.C. LONG			
ASSESSMENT:				in the second second second
CRITICAL FLIGH		OUNDANCY SCREE		CIL ITEM
	NC A	В	C	
NASA [2 /2 IOA [2 /1R] [p]	[P]	[] [P]	[X] *
COMPARE [/N] [N]	[N]	[N]	[]
RECOMMENDATIONS:	(If diffe	erent from NAS	A)	
[2 /1R] [P]	[P]		[] DD/DELETE)
* CIL RETENTION	RATIONALE: () ADEQUATE INADEQUATE	[]
REMARKS: UNLIKE REDUNDANC FOR CREW VISUAL RENDEZ AND STATIO	INSPECTION,	CREW WINDOW	VIEWING, EVA	AND COAS

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-28385X 5.1.6.3		BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	COMM AND TRAC 28385 MONOCHROME LE		Y IRIS LIMIT	SWITCH
LEAD ANALYST:	W.C. LONG			
ASSESSMENT:				
CRITICALI FLIGHT		DANCY SCRE	ENS	CIL ITEM
HDW/FUN		В	С	
NASA [3 /3 IOA [3 /3] []	[]	[]	[] *
COMPARE [/] []	[]	[]	[]
RECOMMENDATIONS:	(If differe	nt from NA	.SA)	
[/] []	.[]	[´] - (A	[] ADD/DELETE)
* CIL RETENTION I	RATIONALE: (If	applicabl	ADEQUATE	
REMARKS: AGREE.			INADEQUATE	L J

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-2838	6X	NASA DATA BASELINE NEW	: [x]
SUBSYSTEM: MDAC ID: ITEM:	28386	ACK LENS ASSEMBLY		SWITCH
LEAD ANALYST:	W.C. LONG			
ASSESSMENT:				
CRITICALI FLIGHT		UNDANCY SCREE		CIL ITEM
HDW/FU	IC A	В	С	
NASA [2 /2 IOA [3 /2R] [p]	[p]	[] [P]	[] *
COMPARE [N /N] [N]	[א]	[и]	[]
RECOMMENDATIONS:	(If diffe	rent from NAS	A)	
[3 /2R] [P]	[Þ] .		[D] DD/DELETE)
* CIL RETENTION F	RATIONALE: (If applicable	•	
			ADEQUATE INADEQUATE	[X]
REMARKS: RMS TVC DOES NOT	DROUTER UTC	U ODIMICATIMU		
MONITORING RMS MO REDUNDANCY PROVID CREW VISUAL INSPE	OVEMENT AND DED VIA CREW	P/L BAY DOOR WINDOW VIEWI	LATCH CLOSUS NG, EVA AND	RE. UNLIKE COAS FOR
RADAR FOR RENDEZ	AND STATION	KEEPING.		

ASSESSMI ASSESSMI NASA FMI	ENT ID:		RK-283	87X		1	BASE	LINE NEW	_	;] ;]
SUBSYSTI MDAC ID: ITEM:		2838		RACK LENS	ASSEME	SLY II	RIS L	IMIT	SW]	тсн
LEAD ANA	ALYST:	W.C.	LONG							
ASSESSMI	ent:									
	CRITICA FLIG		RE	DUNDAN	CY SCF	REENS			CII	
	HDW/F		A		В	C	3			
NASA IOA	[3 /3 [3 /3]]] []	[]		[] *]
COMPARE	[/	1	[] [J	[]		[]
RECOMME	NDATIONS	: (I	f diff	erent	from N	IASA)				
	[/]	[] []	[]	(AI	[DD/I] DELETE)
* CIL R	ETENTION	RATIO	NALE:	(If ap	plicak	7	ADEQU ADEQU		[]	K]
REMARKS	:					2112				J

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-2	28388X			[] [X]
SUBSYSTEM: MDAC ID: ITEM:	28388			r IRIS LIMIT	SWITCH
LEAD ANALYST:	W.C. LOI	NG	s		
ASSESSMENT:					
CRITICAL: FLIGHT		REDUNDA	NCY SCREE	ens	CIL ITEM
	4C	A	В	C	IIEM
NASA [2 /2 IOA [3 /2R] [p]	[] [P]	[] [P]	[X] * []
COMPARE [N /N] [N]	[и]	[14]	[N]
RECOMMENDATIONS:	(If d	ifferent	from NAS	A)	
[3 /2R] [P]	[P]	[P]	[D] DD/DELETE)
* CIL RETENTION I	RATIONALI	E: (If a	pplicable	ADEQUATE INADEQUATE	[]
REMARKS: RMS TVC DOES NOT MONITORING RMS MO REDUNDANCY PROVID CREW VISUAL INSPI	OVEMENT A	AND P/L CREW WIN	BAY DOOR DOW VIEWI	FUNCTION L. LATCH CLOSUING, EVA AND	IKE RE. UNLIKE COAS FOR

RADAR FOR RENDEZ AND STATION KEEPING.

A	SSESSME SSESSME ASA FME	T'N	D:		RK-28	389X			ľ	NASA BASE	LINE		[]	
M	UBSYSTE DAC ID: TEM: WITCH			2838				SEMB	LY II	RIS,	FOCU	S, Z	:00M	1 LIMIT
L	EAD ANA	LYST	r:	W.C.	LONG									
A	SSESSME	NT:												
			rical Fligh		R	EDUN	DANCY	SCR	EENS			CII		
			OW/FU		A		E	3	(2				
	NASA IOA	[3	3 /3 3 /3]	[]	[]]]		[]	*
С	OMPARE	[/]	[]	[]	[]		[]	
R	ECOMMEN	DAT!	ions:	(I	f dif	fere	nt fr	om N	ASA)					
		[/·	.]	[]	[]	[]	(A	[DD/I) DELE	ETE)
	CIL RE		rion	RATIO	NALE:	(If	appl	icab	1	ADEQU ADEQU			K]	
	GREE.													

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	COMTRK-2	8390X		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM: SWITCH	28390				IS, ZOOM LIMIT
LEAD ANALYST:	W.C. LONG	3			
ASSESSMENT:					
CRITICAL FLIGH	ITY 1	REDUNDAN			CIL ITEM
HDW/FU	NC 1	A	В	c ,	IIEM
NASA [2 /2 IOA [2 /1R] [1] [P] [p]	[] [P]	[X] * [X]
COMPARE [/N] [1	4] [N]	[иј	[]
RECOMMENDATIONS:	(If di	fferent	from NAS	SA)	
[2 /1R] [1	P] [P]	[P] (A	[] .DD/DELETE)
* CIL RETENTION	RATIONALE:	: (If ap	plicable	ADEQUATE INADEQUATE	[]
REMARKS: UNLIKE REDUNDANC FOR CREW VISUAL RENDEZ AND STATIO	Y EXISTS V INSPECTION	N, RMS J		VIEWING, EV	A AND COAS

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/16/88 COMTRK-28391 3.3.6.3	LX	NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AND TRA 28391 WIDE ANGLE I		Y IRIS, FOCU	JS, ZOOM LIMIT
LEAD ANALYST:	W.C. LONG			
ASSESSMENT:				
CRITICAL: FLIGH HDW/FU	T	JNDANCY SCRE B	ENS C	CIL ITEM
•] []	[]	[]	[] *
COMPARE [/] []	[]	[]	[]
RECOMMENDATIONS:	(If differ	rent from NA	SA)	
[/] []	[]	[] (2	[ADD/DELETE)
* CIL RETENTION :	RATIONALE: (1	If applicabl	e) ADEQUATE INADEQUATE	्त्रकालकात जाते । [X] []

AGREE.

ASSESSMI ASSESSMI NASA FMI	ENT I	D:	COMTR	K-28	392X				ASA DA BASEL:		;] ;]	
SUBSYSTIMDAC ID ITEM: SWITCH			28392					Y IR		ocus, :	ZOOM L	IMIT
LEAD AN	ALYSI	?:	W.C.	LONG								
ASSESSMI	ENT:											
	F	LIGH!					SCRE			CII	-	
	HD	W/FUI	NC	A		В	j	С				
NASA IOA	[3 [3	/3]	[]	[[]	[[]	[[] *]	
COMPARE	[/] .	[]	[]	[]	[]	
RECOMMEN	NDATI	ons:	(If	dif	feren	t fr	om NA	SA)				1
	[/]	[]	[]]	[(ADD/I] ELETE))
* CIL RI	ETENT	ON I	RATION	ALE:	(If	appl	icabl	e)	DEQUAT	כו שי	į j	
REMARKS:									DEQUAT	E [j	
AGREE.												

	3/16/88 COMTRK-28393X 4.3.6.3		NASA DAT. BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AND TRAC 28393 WIDE ANGLE LE		LY IRIS, FOC	US, ZOOM LIMIT
LEAD ANALYST:	W.C. LONG			
ASSESSMENT:				
CRITICAL FLIGH		DANCY SCR	EENS	CIL ITEM
HDW/FU		В	С	
NASA [3 /3 IOA [3 /3] []	[]	[]	[] *
COMPARE [/] []	[]	[]	[]
RECOMMENDATIONS:	(If differe	ent from N	ASA)	
[/] []	[]	[] ([ADD/DELETE)
* CIL RETENTION	RATIONALE: (If	applicab	le) ADEQUATE INADEQUATE	
REMARKS: AGREE.				

ASSESSME NASA FME	NT I A #:	D:	COMTR 4.3.6	88 K-2 •4	83	94X							ELINE NEW	[x]		
SUBSYSTE MDAC ID: ITEM: SWITCH			COMM 28394 WIDE								IR	IS,	FOCU	s,	Z	OO	4 I	TIMI
LEAD ANA	LYST	:	W.C.	LON	G													
ASSESSME	NT:															-,		- s.
		ICAL LIGH	ITY T		RE	DUND	ANG	CY	SC	REEI	NS				IL TEN			
•			NC		A			В			С							
NASA IOA	[2 [3	/2 /2R]	[P]	[[P]		[[P]		[X]	*	
COMPARE	[N	/N]	[N]	[N]		[N]		[N]		
RECOMMEN	DATI	ons:	(If	di	ff	erent	t :	fro	om :	NAS	A)							
	[3	/2R	J	[P]	[P]	İ	[P]			D / DE		ETE)
* CIL RE	TENT	ION 1	RATION	ALE	:	(If a	ąpį	ol:	[Ca]	·	Α	DEQ	UATE UATE	٢	X]	-	
REMARKS: RMS TVC MONITORI REDUNDAN CREW VIS	NG R CY P UAL	MS MOVII	OVEMEN' DED VI	T A A C	ND REI MS	P/L W WII JETT	BA NDC	AY WC	VI VI	ITY OR I EWIN	FU LAT	NCT: CH (ION L CLOSU A AND	IKI RE C	E • OAS	UN S F	OR	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/16/88 COMTRK-2839 5.3.6.3	95X	NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM: SWITCH	COMM AND TE 28395 WIDE ANGLE		LY IRIS, FOCU	JS, ZOOM LIMIT
LEAD ANALYST:	W.C. LONG			
ASSESSMENT:				
CRITICAL		DUNDANCY SCRE	EENS	CIL
FLIGH HDW/FU		В	С	ITEM
NASA [3 /3 IOA [3 /3] []] []		*
COMPARE [/] []] []	[]	[]
RECOMMENDATIONS:	(If diffe	erent from NA	ASA)	
. [/] [] []	[]	[] ADD/DELETE)
* CIL RETENTION : REMARKS: AGREE.	RATIONALE:	(If applicab)	le) ADEQUATE INADEQUATE	[X]

ASSESSMENT DAT ASSESSMENT ID: NASA FMEA #:	COMTRK-	-28396X		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM: SWITCH	28396			IRIS, FOCU	s, zoom limit
LEAD ANALYST:	W.C. LO	NG			
ASSESSMENT:					. <u></u> -
	LITY	REDUNDAN	ICY SCREE	ns	CIL ITEM
	UNC	A	В	C	TIEN
NASA [2 / IOA [3 /	R] [P] [P]	[] [P]	[X] * []
COMPARE [N /] [[N]	[N]	[N]	[N]
RECOMMENDATION	: (If d	lifferent	from NAS	A)	
[3 /	R] [[P] [Pj	[P] (A	[D] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If ap	_) ADEQUATE INADEQUATE	[]
REMARKS: RMS TVC DOES NO MONITORING RMS REDUNDANCY PROCREW VISUAL IN RADAR FOR REND	MOVEMENT IDED VIA PECTION,	AND P/L E CREW WIND RMS JETTI	BAY DOOR OOW VIEWI SON. OT	LATCH CLOSU NG, EVA AND	RE. UNLIKE COAS FOR

ASSESSMENT DATE: 3/16/88 ASSESSMENT ID: COMTRK-28396X NASA FMEA #: 3.2.6.3								NASA DATA: BASELINE [] NEW [X]							
SUBSYSTE MDAC ID: ITEM:	M:			283	M AND 1 97 OR LENS			Y IR	is Li	MIT S	SWIT(СН			
LEAD ANA	LYS	ST:		W.C	. LONG										
ASSESSME	NT:	:													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM															
	I			NC	A		E	3 .	C	!					
NASA IOA	[3 3	/3 /3]	[]	[[]	[]]]	*	
COMPARE	[/]	[]	Ţ]	Ţ]		[]		
RECOMMEN	DA:	ric	NS:	(If dif	fere	ent fr	om N	IASA)						
	[/]	ί]	Γ].	[]	(A	[DD/	DEL	ETE)	
* CIL RE REMARKS: AGREE.	TE	T	ON	RATI	ONALE:	(Ii	f appl	icak	P	DEQUA			x]		

ASSESSMENT DATE: 3/16/88 ASSESSMENT ID: COMTRK-28398X NASA FMEA #: 3.2.6.4									ì		DATA ELINE NEW	[
										MIT	SWIT	СН		
LEAD ANA	LYS	T	:	W.C	. LONG									
ASSESSME	ENT:										-	- 20 9 2		
	CRI		CAL LIGH	ITY T	RI	EDUN	DANCY	SCR	REENS			CII		
	H	IDV	V/FU	NC	A		F	3	C	3	: :			
NASA IOA	[[3	/3 /3]]]	[]	[]		[]	*
COMPARE	[/]	Ţ]	[]	[]		ſ	}	
RECOMMEN	IDAT	'IC	ons:	(]	f dif	fere	nt fr	om N	ASA)					
	[/	1	[] ·	[]	[]	· (Al	[DD/I] DELE	TE)
* CIL RE	TEN	T)	ON :	RATIO	ONALE:	(If	appl	icab	A	DEQU	JATE JATE	[}	(]	
REMARKS:									±112	20		L	J	

	SMENT DATE: 3/16/88 SMENT ID: COMTRK-28399X FMEA #: 2.2.6.3						K	NASA DATA: BASELINE [] NEW [X]							
SUBSYSTE MDAC ID:	M:			283	OMM AND TRACK 8399 OLOR LENS ASSEMBLY IRIS LIMIT							СН			
LEAD ANA	LYS	LYST: W.C. LONG													
ASSESSME	NT:	:													
	CR1		ICAI LIGH	LITY	R	EDUI	NDANCY	SCF	REENS			CI I'l	L		
	F		/FU		A		В		Ċ	:					
NASA IOA	[3	/3 /3]	[[]	[]	[]		[[:] *]	
COMPARE	[/]	[]	[]	Γ]		[]	
RECOMMEN	DAT	ric	ONS:	(If dif	fere	ent fr	om N	IASA)			-			
•	[·		/]	[]	(3	[]	(A	[DD/	'DE] LETE)	
* CIL RE	TEI	NT:	ION	RATI	ONALE:	(I:	f appl	icak	A		JATE JATE	[X :]]	
AGREE.															

ASSESSMEN' NASA FMEA	SSESSMENT DATE: 3/16/88 SSESSMENT ID: COMTRK-28400X ASA FMEA #: 2.2.6.4											BASELINI NEV	E [X]	
SUBSYSTEM MDAC ID: ITEM:			28400							;]	LIN	MIT SWIT	сн			
LEAD ANALY	YST:		w.c.	LO	1G											
ASSESSMENT:																
cı	FL.	[GH]	TY IC					CY B		ENS	S C	. <u></u>	C I	I L FEN	ſ	
NASA IOA	[2 / [2 /	/2 /1R) }	[[P]	[P]	[P]	[X X]	*
COMPARE	[/	/N]	[N]	[N]	[N]	[]	
RECOMMEND	ATIO	1S:	(If	d:	ff	eren	t :	fro	m NAS	A))					
•	[2 /	/1R]	[P]	[P]	[P] (2		/DI		ETE)
* CIL RET	ENTI(ON F	RATION	ALI	Ξ:	(If	apı	pli	.cable		AI	DEQUATE DEQUATE	[]	. 2
REMARKS: UNLIKE REI FOR CREW 'RENDEZ ANI	VISU	AL I	NSPEC	TIC	N,	RMS										

ASSESSME ASSESSME NASA FME	ENT I	D:		RK-28	401X			N	BASEI		[] X]	
SUBSYSTE MDAC ID:			2840			K SEMBL	y IR	is Li	MIT S	SWITC	ЭН		
LEAD ANA	LYSI	: :	W.C.	LONG	;								
ASSESSME	ENT:												
		ICAL	ITY	R	REDUN	IDANCY	SCR	EENS			CI	L	
		W/FU		A		В	ł	(2				
NASA IOA	[3 [3	/3]	[]	[]	[[]		[]	*
COMPARE	[/]	[]	. []	[]		[]	
RECOMMEN	IDATI	ons:	(1	f dif	fere	ent fr	om N	ASA)					
·	[/]	[]	[]	[]	(AI		DEL	ETE)
* CIL RI		TION	RATIO	NALE:	(If	appl	icab	1	ADEQUA		[x]	
AGREE.													

ASSESSME ASSESSME NASA FME	NT	I	D:	COM	3/16/88 COMTRK-28402X 4.2.6.4						NASA DATA: BASELINE [] NEW [X]									
SUBSYSTE MDAC ID:				284	02					BL	y I	RIS	LI	MIT	SWI	ſΤC	н			
LEAD ANA	LY	ST	:	W.C	. L	ONG	;													
ASSESSME	NT	:															: -	٠		
		F	ICALI LIGHT W/FUI	c		F		UNI	OAN	CY B		REEN	s c					I L PEI	1	
NASA IOA	[2	/2 /2R]		[[E	,]		[P]]	P]]	X]	*
COMPARE	[N	/N]		[N	7]		[N]	[N]			[N]	
RECOMMEN	IDA!	ric	ons:	(If ·	dif	fe	rei	nt	fr	om	NASA	.)							
	[3	/2R]		[E	•]		[P]	(P]		(AĎ				ETE)
* CIL RE		T'	ION I	RATI	ONA	LE:	(Ιf	ap	pl.	ica				JATI JATI			x]	A
REMARKS: RMS TVC MONITORI	DO																		ÜN	ILIK

REDUNDANCY PROVIDED VIA CREW WINDOW VIEWING, EVA AND COAS FOR CREW VISUAL INSPECTION, RMS JETTISON. OTHER RMS TVC AND KUBAND

RADAR FOR RENDEZ AND STATION KEEPING.

ASSESSI	IENT I	DATE:	3/10	5/88				1	IASA	DATA	:		
ASSESSI NASA FI	ENT I	ID:	COM	ÍRK-28 .6.3	403X				BASE	LINE WEN	-] 1
SUBSYST MDAC II ITEM:	TEM:		COMI 2840	M AND		CK SEMBL	Y IR	IS L	TIM				
LEAD A	NALYS!	r:	W.C	. LONG	;								
ASSESSI	MENT:												
		ricai		F	REDUN	IDANCY	SCR	EENS			CI	L EM	
		FLIGH DW/FU		A	1	В		(3		Т.1	. E.M	
NAS.	A [:	3 /3]	[]	[]	[]		[] *
COMPAR	∃ [/]	[]	E .]	[1		[]
RECOMM	ENDAT:	ions:	(:	If dif	fere	ent fr	om N	ASA)		"			
	C	/	3	[] .	[]	[]	. (A] DD/	/DE] LETE
* CIL :		rion	RATIO	ONALE:	: (If	appl	icab	1		JATE JATE	[x]

ASSESSMENT D ASSESSMENT I NASA FMEA #:	ATE: 3/16/88 D: COMTRK-2 5.2.6.4	28404X	NASA DATA: BASELINE [] NEW [X]							
SUBSYSTEM: MDAC ID: ITEM:	COMM AND 28404 COLOR LE	O TRACK ENS ASSEMBLY IRIS	S LIMIT SWITC	CH						
LEAD ANALYST	: W.C. LON	1G								
ASSESSMENT:				7777						
		REDUNDANCY SCREE	ens	CIL						
	LIGHT W/FUNC	A B	C NEW CONTRACT	TTEM						
NASA [2 IOA [3	/2] [/2R] [P] [P]		[X] * []						
COMPARE [N	/N] [и] [и]	[N]	[N]						
RECOMMENDATI	ons: (If di	ifferent from NAS	SA)							
[3	/2R] [P] [P]	[P] (AI	[D] DD/DELETE)						
* CIL RETENT	ION RATIONALE	E: (If applicable	ADEQUATE INADEQUATE	[]						
MONITORING REDUNDANCY PORTEW VISUAL	MS MOVEMENT A ROVIDED VIA C INSPECTION, F	HIGH CRITICALITY AND P/L BAY DOOR CREW WINDOW VIEWI RMS JETTISON. OT	FUNCTION LI LATCH CLOSUF ING, EVA AND THER RMS TVC	KE RE. UNLIKE COAS FOR						

APPENDIX D

CRITICAL ITEMS

APPENDIX D POTENTIAL CRITICAL ITEMS

NASA FMEA	MDAC-ID	ITEM	FAILURE MODE
05-2G-22800-1 05-2G-22800-1 05-2G-22800-2 05-2G-22800-2 05-2G-23500-3 05-2G-23500-4 05-2G-23500-4 05-2G-23500-3 05-2G-23500-3	1002 1003 1004 1005 1006 1007	S-BAND QUAD ANTENNAS S-BAND QUAD ANTENNAS S-BAND QUAD ANTENNAS S-BAND QUAD ANTENNAS SWITCH BEAM CONTROL E SWITCH BEAM CONTROL E SWITCH BEAM CONTROL E ANTENNA SWITCH ASSEMB ANTENNA SWITCH ASSEMB	LOSS OF OUTPUT, S ERRATIC/INTERMITT FAILURE TO SWITCH BEAM SWITCH FAILS ERRONEOUS OUTPUT LOSS OF OUTPUT, E ERRATIC/INTERMITT FAILS TO OPEN/CLO FAILS TO OPEN/CLO
05-2G-23500-3 05-2G-23500-4 05-2G-23500-4 05-2G-21210-2 05-2G-21204-3 05-2G-21500-1 05-2G-21500-1 05-6PG-21804-1 05-2G-21801-1 05-2G-21802-1 05-2G-21802-2 05-2G-21803-2 05-2G-21533-2 05-2G-21533-2	1010 1013 1036 1045 1046 1050 1051 1052	ANTENNA SWITCH ASSEMB S-BAND PREAMPLIFIER S-BAND PM SYSTEM MODE NETWORK SIGNAL PROCES NETWORK SIGNAL PROCES NSP ENCRYPTION POWER NSP ENCRYPTION MODE S NSP ENCRYPTION SELECT	RF SWITCH FAILS M OPEN (ELECTRICAL) SHORTED OPEN (ELECTRICAL) INTERMITTENT OPER FAILS TO REMAIN O FAILS TO REMAIN O SHORTED FAILS TO REMAIN O
05-2G-21532-2 05-2G-21534-2 05-2G-21535-2 05-6PG-22000-2	1062 1064 1066 1068	NSP ENCRYPTION SELECT ENCRYPTION ZEROIZE/NO NSP UPLINK DATA SOURC NSP DATA RATE XMIT SW NSP DATA RATE RCV SWI NSP CODING XMIT SWITC NSP CODING RCV SWITCH UPLINK BLOCK SWITCH	OPEN (ELECTRICAL) SHORTED SHORTED SHORTED SHORTED SHORTED SHORTED SHORTED FAILS TO OPEN/CLO
05-6PG-21201-2 05-6PG-21228-2 05-6PG-21228-2 05-6PG-21228-2 05-6PG-21228-2 05-6PG-23529-2 05-6PG-23529-2 05-6PG-21500-2	1524 1582 1583 1584 1585 1600 1601	DIODE, A16CR1 DIODE, A16CR2 DIODE, A18CR13 DIODE, A18CR14 DIODE, A18CR15 DIODE, A18CR16 DIODE, A19CR1 DIODE, CR2A19 DIODE	FAILS SHORTED FAILS SHORTED FAILS SHORTED FAILS SHORTED FAILS SHORTED FAILS SHORTED FAILS SHORTED FAILS SHORTED FAILS SHORTED FAILS SHORTED
05-6PG-21500-2 05-2J-25500-1 05-2J-23600-1 05-2J-23600-1 05-2J-213013-1 05-2J-213014-1 05-6PJ-236002-1 05-2J-21304-2 05-2J-21309-2 05-2J-21308-2	1613 3001 3003 3004 3017 3019 3021 3023 3025 3027	DIODE PAYLOAD ANTENNA PAYLOAD RF TRANSFER S PAYLOAD RF TRANSFER S S-BAND PAYLOAD SYSTEM S-BAND PL PI/PSP POWE S-BAND PL ANTENNA POL PI TRANSMITTER RF PWR PL SYSTEM XMTR MODULA S-BAND FREQUENCY SWEE	FAILS SHORT LOSS OF OUTPUT FAILS MID-TRAVEL, SHORTED SHORTED SHORTED SHORTED SHORTED SHORTED SHORTED SHORTED
05-2J-21615-2 05-2R-5100-2 05-2R-5100-2	3029 4018 4019 4041	S-BAND PL PSP COMMAND KU BD COMM DOWN/RETUR KU BD COMM DOWN/RETUR KU BD ANT A PYRO ARM/	SHORTED LOSS OF OUTPUT LOSS OF OUTPUT FAILS TO SWITCH

APPENDIX D POTENTIAL CRITICAL ITEMS

NASA FMEA	MDAC-ID	ITEM	FAILURE MODE
05-6PR-54050-1 05-6PR-51050-1 05-6PR-53024-1 05-6PR-51053-1 05-6PR-51052-1 05-6PR-53055-1 05-6PR-53067-1 05-2B-23400-1 05-2B-22100-1 05-2B-22100-1	4042 4043 4044 4501 4503 4505 4508 4511 4512 4511 4512 4513 5001 5003 5004 5005	KU BD ANT A PYRO ARM/ KU BD ANT A PYRO JETT KU BD ANT A PYRO JETT CIRCUIT BREAKER, 5A CIRCUIT BREAKER, 15A CIRCUIT BREAKER, 7.5A RPC, 10A FUSE, 3A FUSE, 3A FUSE, 3A FUSE, 3A UHF EVA/ATC EXTERNAL UHF EVA/ATC TRANSCEIV UHF EVA/ATC TRANSCEIV UHF EVA/ATC TRANSCEIV UHF EVA/ATC TRANSCEIV UHF EVA/ATC TRANSCEIV UHF EVA/ATC TRANSCEIV UHF EVA/ATC TRANSCEIV UHF EVA/ATC TRANSCEIV UHF SIMPLEX PA PWR SW UHF SIMPLEX PA PWR SW	ELECTRICAL OPEN/S FAILS TO SWITCH ELECTRICAL OPEN/S FAILS OPEN FAILS OPEN FAILS OPEN FAILS OPEN FAILS OPEN FAILS OPEN FAILS OPEN FAILS OPEN FAILS OPEN LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT
05-2B-22100-1 05-2B-22100-2 05-2B-22104-1 05-2B-22104-1 05-2B-22103-2 05-2B-22103-3 05-6PB-22107-1 05-6PB-22107-2	5009 5010 5013 5014 5501	UHF SIMPLEX POWER SWI UHF XMIT FREQUENCY SE UHF XMIT FREQUENCY SE CIRCUIT BREAKER, UHF, CIRCUIT BREAKER, UHF,	SHORTED FAILS TO REMAIN O SHORTED FAILS TO REMAIN O
05-8FB-22107-2 05-2C-22200-2 05-2C-22200-2 05-2F-22400-2 05-2D-22700-1	7002 7003 7014 7020	CIRCUIT BREAKER, UHF, TACAN TACAN MSBLS TRACKER/DECODER RADAR ALTIMETER	FAILS TO REMAIN O INTERMITTENT AND FAILS OUT OF TOLE INTERMITTENT AND LOSS OF OUTPUT
05-2D-22700-3 05-2D-22700-2 05-2D-22700-4	7020 7021	RADAR ALTIMETER RADAR ALTIMETER RADAR ALTIMETER RADAR ALTIMETER RA PWR SWITCH	LOSS OF OUTPUT FAILS OUT OF TOLE FAILS OUT OF TOLE INTERMITTENT AND INTERMITTENT AND FAILS TO CLOSE
05-6PD-22701-1 05-6PD-22701-1 05-2R-5100-1 05-2R-5100-2 05-2R-5100-1 05-2R-5100-1 05-2R-5100-1 05-2R-5100-2	7024 7025 7026 7026 7027 7027 7028 7028	RA PWR SWITCH RA PWR SWITCH RENDEZVOUS RADAR RENDEZVOUS RADAR RENDEZVOUS RADAR RENDEZVOUS RADAR RENDEZVOUS RADAR RR EA-1 (INTERFACE AN RR EA-1 (INTERFACE AN	FAILS TO REMAIN C ELECTRICAL OPEN/S LOSS OF OUTPUT LOSS OF OUTPUT FAILS OUT OF TOLE FAILS OUT OF TOLE LOSS OF OUTPUT LOSS OF OUTPUT
05-2R-5200-1 05-2R-5300-1 05-2R-5300-5 05-2R-5300-1 05-2R-5300-1	7029 7030 7030 7031 7032	RR EA-2 (RADAR SIGNAL RR DEA (DEPLOYED ELEC RR DEA (DEPLOYED ELEC RR DEA (DEPLOYED ELEC RR DMA (DEPLOYED MECH	LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT FAILS OUT OF TOLE LOSS OF OUTPUT

APPENDIX D POTENTIAL CRITICAL ITEMS

NASA FMEA	MDAC-ID	ITEM	FAILURE MODE
05-2R-5300-4	7033	RR DMA (DEPLOYED MECH RR DMA (DEPLOYED MECH RR DMA (DEPLOYED MECH KU-BAND POWER SWITCH KU-BAND POWER SWITCH KU-BAND POWER SWITCH KU A MODE SWITCH (REF KU A MODE SWITCH (REF KU BD A ANT STEERING RADAR OUTPUT SWITCH SLEW AZIMUTH CONTROL	PHYSICAL BINDING/
	7034	RR DMA (DEPLOYED MECH	FAILS TO START/ST
05-2R-5300-1 05-2R-5112-1 05-2R-5112-2	7035	RR DMA (DEPLOYED MECH	ERRATIC OPERATION
05-2R-5112-1	7036	KU-BAND POWER SWITCH	FAILS TO CLOSE
05-2R-5112-2	7037	KU-BAND POWER SWITCH	ELECTRICAL OPEN/S
	7038	KU-BAND POWER SWITCH	FAILS TO REMAIN C
05-2R-5113-1 05-2R-5113-2	7039	KU A MODE SWITCH (REF	FAILS TO SWITCH
05-2R-5113-2	7040	KU A MODE SWITCH (REF	ELECTRICAL OPEN/S
05-2R-5107-1	7041	RU BD A ANT STEERING	FAILS TO SWITCH
05-2R-5214-2	7043	RADAR OUTPUT SWITCH	ELECTRICAL OPEN/S
05-2K-51U4-1	7044	SLEW AZIMUTH CONTROL SLEW AZIMUTH CONTROL SLEW ELEV CONTROL SWI SLEW ELEV CONTROL SWI	FAILS TO SWITCH
05-2K-5104-2	7040	CIEM FIRM COMPONICAL	ELECTRICAL OPEN/S
05-2K-5104-1	7040	SLEW FLEY CONTROL SWI	FRIED TO SWITCH
05-2R-5104-2 05-2D-5105-2	7040	STEM BYAE CONTROL SMI	ELECTRICAL OPEN/S
05-2R-5105-2 05-2D-5108-3	7048 7051	SLEW RATE CONTROL SWI ANT SEARCH SELECT SWI	FIRCTRICAL OPEN/S
05 2N 3100 3	7506	CIRCUIT BREAKER, 3A(3	FAILS OPEN
1.2.2	8001	VIDEO SWITCHING UNIT	LOSS OF OUTPUT
1.2.18	8001	VIDEO SWITCHING UNIT	LOSS OF OUTPUT
1.2.21	8001	VIDEO SWITCHING UNIT	LOSS OF OUTPUT
1.2.22	8001	VIDEO SWITCHING UNIT	LOSS OF OUTPUT
1.2.23	8001	VIDEO SWITCHING UNIT	LOSS OF OUTPUT
1.2.2	8002	VIDEO SWITCHING UNIT	FAILS TO SWITCH
1.2.18	8002	VIDEO SWITCHING UNIT	FAILS TO SWITCH
1.2.21	8002	VIDEO SWITCHING UNIT	FAILS TO SWITCH
1.2.22	8002	VIDEO SWITCHING UNIT	FAILS TO SWITCH
1.2.23	8002	VIDEO SWITCHING UNIT	FAILS TO SWITCH
1.2.2	8003	VIDEO SWITCHING UNIT	ELECTRICAL OPEN/S
1.2.18	8003	VIDEO SWITCHING UNIT	ELECTRICAL OPEN/S
1.2.21	8003	VIDÉO SWITCHING UNIT	ELECTRICAL OPEN/S
1.2.22	8003	VIDEO SWITCHING UNIT	ELECTRICAL OPEN/S
1.2.23	8003	VIDEO SWITCHING UNIT REMOTE CONTROL UNIT	ELECTRICAL OPEN/S
1.1.1	8004	REMOTE CONTROL UNIT	LOSS OF OUTPUT
1.1.2	8004	REMOTE CONTROL UNIT	LOSS OF OUTPUT
1.1.5		REMOTE CONTROL UNIT	LOSS OF OUTPUT
1.1.11.2 1.1.15	8004 8004	REMOTE CONTROL UNIT	LOSS OF OUTPUT LOSS OF OUTPUT
1.1.19	8004	REMOTE CONTROL UNIT	LOSS OF OUTPUT
1.1.8	8004	REMOTE CONTROL UNIT	LOSS OF OUTPUT
1.1.9	8004	REMOTE CONTROL UNIT	LOSS OF OUTPUT
1.1.10	8004	REMOTE CONTROL UNIT	LOSS OF OUTPUT
1.1.11.1	8004	REMOTE CONTROL UNIT	LOSS OF OUTPUT
1.1.12.1	8004	REMOTE CONTROL UNIT	LOSS OF OUTPUT
1.1.12.2	3004	REMOTE CONTROL UNIT	LOSS OF OUTPUT
1.1.1	8005	REMOTE CONTROL UNIT	ELECTRICAL OPEN/S
1.1.2	8005	REMOTE CONTROL UNIT	ELECTRICAL OPEN/S
1.1.5	8005	REMOTE CONTROL UNIT	ELECTRICAL OPEN/S
1.1.11.2	8005	REMOTE CONTROL UNIT	ELECTRICAL OPEN/S
1.1.15	8005	REMOTE CONTROL UNIT	ELECTRICAL OPEN/S

NASA FMEA	MDAC-ID	ITEM	FAILURE MODE
1.1.19 1.1.8 1.1.9 1.1.10 1.1.11.1 1.1.12.1 1.1.12.2 2.1.1 2.1.2 2.1.3.1 2.1.5 2.2.1 2.2.2 2.2.3.1 2.2.5 2.3.1 2.3.2 2.3.3.1 2.3.5 2.1.1	8005 8005 8005 8005 8005 8005 8008 8008	REMOTE CONTROL UNIT REMOTE CONTROL UNIT REMOTE CONTROL UNIT REMOTE CONTROL UNIT REMOTE CONTROL UNIT REMOTE CONTROL UNIT REMOTE CONTROL UNIT TV CAMERA A (FWD P/L TV CAMERA A (FWD P/L TV CAMERA A (FWD P/L TV CAMERA A (FWD P/L TV CAMERA A (FWD P/L TV CAMERA A (FWD P/L TV CAMERA A (FWD P/L TV CAMERA A (FWD P/L TV CAMERA A (FWD P/L TV CAMERA A (FWD P/L TV CAMERA A (FWD P/L TV CAMERA A (FWD P/L TV CAMERA A (FWD P/L TV CAMERA A (FWD P/L TV CAMERA A (FWD P/L TV CAMERA A (FWD P/L TV CAMERA A (FWD P/L TV CAMERA A (FWD P/L TV CAMERA A (FWD P/L TV CAMERA C (AFT P/L	LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT
2.1.1 2.1.2 2.1.3.1 2.1.5 2.2.1 2.2.2 2.2.3.1 2.3.2 2.3.3.1 2.3.5 2.1.4 2.2.4 2.3.4 2.1.3.2 2.3.2 2.3.3.1	8009 8009 8009 8009 8009 8009 8009 8009	TV CAMERA C (AFT P/L TV CAMERA D (RMS STBD TV CAMERA D (RMS STBD TV CAMERA D (RMS STBD TV CAMERA D (RMS STBD	LOSS OF OUTPUT LOSS OF OUTPUT
2.2.1 2.2.2 2.2.3.1 2.2.5 2.3.1 2.3.2 2.3.3.1 2.3.5	8010 8010 8010 8010 8010 8010 8010 8010	TV CAMERA D (RMS STBD TV CAMERA D (RMS STBD TV CAMERA D (RMS STBD TV CAMERA D (RMS STBD TV CAMERA D (RMS STBD TV CAMERA D (RMS STBD TV CAMERA D (RMS STBD TV CAMERA D (RMS STBD TV CAMERA D (RMS STBD TV CAMERA D (RMS STBD	LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT

NASA FMEA	MDAC-ID	ITEM	FAILURE MODE
2.1.1	8011	TV CAMERA D (RMS STBD	LOSS OF OUTPUT
2.1.2	8011	TV CAMERA D (RMS STBD	LOSS OF OUTPUT
2.1.3.1	8011	TV CAMERA D (RMS STBD	LOSS OF OUTPUT
2.1.5	8011	TV CAMERA D (RMS STBD	LOSS OF OUTPUT
2.2.1	8011	TV CAMERA D (RMS STBD	LOSS OF OUTPUT
2.2.2	8011	TV CAMERA D (RMS STBD	LOSS OF OUTPUT
2.2.3.1	8011	TV CAMERA D (RMS STBD	LOSS OF OUTPUT
2.2.5	8011	TV CAMERA D (RMS STBD	LOSS OF OUTPUT
2.3.1	8011	TV CAMERA D (RMS STBD	LOSS OF OUTPUT
2.3.2	8011	TV CAMERA D (RMS STBD	LOSS OF OUTPUT
2.3.3.1	8011	TV CAMERA D (RMS STBD	LOSS OF OUTPUT
2.3.5	8011	TV CAMERA D (RMS STBD	LOSS OF OUTPUT
5.1.1	8012	TV CAMERA RMS WRIST	LOSS OF OUTPUT
5.1.2	8012	TV CAMERA RMS WRIST	LOSS OF OUTPUT
5.1.3.1	8012	TV CAMERA RMS WRIST	LOSS OF OUTPUT
5.1.5	8012	TV CAMERA RMS WRIST	LOSS OF OUTPUT
5.2.1	8012	TV CAMERA RMS WRIST	LOSS OF OUTPUT
5.2.2	8012	TV CAMERA RMS WRIST	LOSS OF OUTPUT
	8012	TV CAMERA RMS WRIST	LOSS OF OUTPUT
5.2.5	8012	TV CAMERA RMS WRIST	LOSS OF OUTPUT
5.3.1	8012	TV CAMERA RMS WRIST	LOSS OF OUTPUT
5.3.2	8012	TV CAMERA RMS WRIST	LOSS OF OUTPUT
5.3.3.1	8012	TV CAMERA RMS WRIST	LOSS OF OUTPUT
5.3.5	8012	TV CAMERA RMS WRIST	LOSS OF OUTPUT
4.1.1	8013	TV CAMERA RMS ELBOW	LOST OF OUTPUT
4.1.2	8013	TV CAMERA RMS ELBOW	LOST OF OUTPUT
4.1.3.1	8013	TV CAMERA RMS ELBOW	LOST OF OUTPUT
4.2.1	8013	TV CAMERA RMS ELBOW	LOST OF OUTPUT
4.2.2	8013	TV CAMERA RMS ELBOW	LOST OF OUTPUT
4.2.3.1	8013	TV CAMERA RMS ELBOW	LOST OF OUTPUT
4.3.1	8013	TV CAMERA RMS ELBOW	LOST OF OUTPUT
4.3.2	8013	TV CAMERA RMS ELBOW TV CAMERA RMS ELBOW	LOST OF OUTPUT
4.3.3.1	8013 8013	TV CAMERA RMS ELBOW	LOST OF OUTPUT
4.1.5 4.2.5	8013	TV CAMERA RMS ELBOW	LOST OF OUTPUT
	8013	TV CAMERA RMS ELBOW	LOST OF OUTPUT
4.3.5 2.1.7	8014	PAN AND TILT UNIT (TV	PHYSICAL BINDING/
2.2.7	8014	PAN AND TILT UNIT (TV	PHYSICAL BINDING/
2.3.7	8014	PAN AND TILT UNIT (TV	PHYSICAL BINDING/
2.4.1.1	8014	PAN AND TILT UNIT (TV	PHYSICAL BINDING/
2.4.1.2	8014	PAN AND TILT UNIT (TV	PHYSICAL BINDING/
2.4.2.1	8014	PAN AND TILT UNIT (TV	PHYSICAL BINDING/
2.4.2.2	8014	PAN AND TILT UNIT (TV	PHYSICAL BINDING/
2.4.3	8014	PAN AND TILT UNIT (TV	PHYSICAL BINDING/
2.1.7	8015	PAN AND TILT UNIT (TV	PHYSICAL BINDING/
2.2.7	8015	PAN AND TILT UNIT (TV	PHYSICAL BINDING/
2.3.7	8015	PAN AND TILT UNIT (TV	PHYSICAL BINDING/
2.4.1.1	8015	PAN AND TILT UNIT (TV	PHYSICAL BINDING/
2.4.1.2	8015	PAN AND TILT UNIT (TV	PHYSICAL BINDING/

APPENDIX D
POTENTIAL CRITICAL ITEMS

NASA FMEA	MDAC-ID	ITEM	FAILURE MODE
2.4.2.1 2.4.2.2 2.4.3 2.4.4.2 2.1.7 2.2.7 2.3.7 2.4.1.1 2.4.2.2 2.4.3 2.1.7 2.2.7 2.3.7 2.4.1.1 2.4.2.2 2.4.2.1 2.4.2.2 2.4.3 2.1.7 2.2.7 2.3.7 4.2.1.1 4.2.2.2 4.2.2.1 4.2.2.2 4.2.2.1 4.2.2.2 4.2.3 2.1.7 2.2.7 2.3.7 2.4.2.1 2.4.2.2 2.4.3 2.1.7 2.2.7 2.3.7 2.4.2.1 2.4.2.2 2.4.3 2.1.7 2.2.7 2.3.7 4.2.1.1 4.2.2.2 4.2.2.1 4.2.2.2 4.2.2.1 4.2.2.2 4.2.3 2.4.4.2 2.4.2.1 2.4.2.2 2.4.3 2.1.7 2.2.7 2.3.7 2.4.1.1 2.4.2.2 2.4.2.1 2.4.2.2 2.4.2.1 2.4.2.2 2.4.2.1 2.4.2.2 2.4.3 2.1.7 2.2.4.2.1 2.4.2.2 2.4.3 2.1.7 2.2.7 2.3.7 2.4.1.1 2.4.2.2 2.4.2.1 2.4.2.2 2.4.3 2.1.7 2.2.7 2.3.7 2.4.1.1 2.4.2.2 2.4.2.1 2.4.2.2 2.4.3 2.1.7 2.2.7	8015 8015 8015 8015 8016 8016 8016 8016 8016 8017 8017 8017 8017 8017 8017 8017 8017	PAN AND TILT UNIT (TV PAN AND TILT UNIT (TV	ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/ FAILS TO START/ST FAILS TO START/ST FAILS TO START/ST FAILS TO START/ST FAILS TO START/ST FAILS TO START/ST FAILS TO START/ST FAILS TO START/ST ERRATIC/INTERMITT
4.2.2.2 4.2.3 2.4.4.2 2.1.7 2.2.7 2.3.7 2.4.1.1 2.4.1.2 2.4.2.1 2.4.2.2 2.4.3 2.1.7	8018 8018 8019 8019 8019 8019 8019 8019	PAN AND TILT UNIT (TV PAN AND TILT UNIT (TV PAN AND TILT UNIT (TV PAN AND TILT UNIT (TV PAN AND TILT UNIT (TV PAN AND TILT UNIT (TV PAN AND TILT UNIT (TV PAN AND TILT UNIT (TV PAN AND TILT UNIT (TV PAN AND TILT UNIT (TV PAN AND TILT UNIT (TV PAN AND TILT UNIT (TV PAN AND TILT UNIT (TV PAN AND TILT UNIT (TV PAN AND TILT UNIT (TV PAN AND TILT UNIT (TV PAN AND TILT UNIT (TV	FAILS TO START/ST FAILS TO START/ST FAILS TO START/ST ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT PHYSICAL BINDING/

	AN AND TILT UNIT (TV AN AND TILT UNIT (TV	₽411C WO CW4DW CW
2.4.2.2 8021 PA 2.4.3 8021 PA 2.4.4.2 8021 PA 2.1.7 8022 PA 2.2.7 8022 PA 2.3.7 8022 PA 2.4.1.1 8022 PA 2.4.1.2 8022 PA 2.4.2.1 8022 PA 2.4.2.2 8022 PA 2.1.7 8023 PA 2.2.7 8023 PA 2.4.1.1 8023 PA 2.4.1.1 8023 PA 2.4.2.1 8023 PA 2.4.2.1 8023 PA 2.4.2.2 8023 PA 2.4.3 8023 PA 2.4.3 8024 PA 2.2.7 8024 PA	AN AND TILT UNIT (TV AN AND TILT UNIT (TV	FAILS TO START ST FAILS TO START ST FAILS TO START ST FAILS TO START ST FAILS TO START ST FAILS TO START ST ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT PHYSICAL BINDING/PHYSICAL
2.1.7 8024 PAN 2.2.7 8024 PAN 2.3.7 8024 PAN 2.1.1.1 8024 PAN 2.4.1.2 8024 PAN 2.4.2.1 8024 PAN 2.4.2.2 8024 PAN 2.4.3 8024 PAN 2.1.7 8025 PAN 2.2.7 8025 PAN 2.3.7 8025 PAN 2.4.1.1 8025 PAN 2.4.1.2 8025 PAN 2.4.2.1 8025 PAN 2.4.2.2 8025 PAN 4.4.1.2 8026 PAN 4.4.2.1 8026 PAN 4.4.2.1 8026 PAN 4.4.2.2 8026 PAN 4.4.3 8027 PAN 4.2.7 8027 PAN 4.2.7 8027 PAN 4.3.7 8027 PAN 4.3.7 8027 PAN 4.3.7 8027 PAN 4.3.7	N AND TILT UNIT (TV	FAILS TO START/ST

NASA FMEA	MDAC-ID	ITEM	FAILURE MODE
4.4.1.2 4.4.2.1 4.4.2.2 4.4.3 2.1.6.1 2.1.6.4 2.1.6.2 2.1.6.1 2.1.6.4 2.1.6.2 2.1.6.1	8028 8028 8028 8028 8033 8033 8034 8035 8035 8035 8037	PAN AND TILT UNIT (RM PAN AND TILT UNIT (RM PAN AND TILT UNIT (RM PAN AND TILT UNIT (RM MONOCHROME LENS ASSEM MONOCHROME LENS ASSEM MONOCHROME LENS ASSEM MONOCHROME LENS ASSEM MONOCHROME LENS ASSEM MONOCHROME LENS ASSEM MONOCHROME LENS ASSEM MONOCHROME LENS ASSEM MONOCHROME LENS ASSEM MONOCHROME LENS ASSEM	ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT ERRATIC/INTERMITT LOSS OF OUTPUT LOSS OF OUTPUT PHYSICAL BINDING/ LOSS OF OUTPUT PHYSICAL BINDING/ LOSS OF OUTPUT PHYSICAL BINDING/ LOSS OF OUTPUT LOSS OF OUTPUT
2.1.6.2 2.1.6.1 2.1.6.4 2.1.6.2 5.1.6.2 4.1.6.1 4.1.6.4 4.1.6.2	8038 8039 8039 8040 8042 8043 8043	MONOCHROME LENS ASSEM MONOCHROME LENS ASSEM MONOCHROME LENS ASSEM MONOCHROME LENS ASSEM MONOCHROME LENS ASSEM MONOCHROME LENS ASSEM MONOCHROME LENS ASSEM MONOCHROME LENS ASSEM MONOCHROME LENS ASSEM	PHYSICAL BINDING/ LOSS OF OUTPUT LOSS OF OUTPUT PHYSICAL BINDING/ PHYSICAL BINDING/ LOSS OF OUTPUT LOSS OF OUTPUT PHYSICAL BINDING/
2.3.6.1 2.3.6.4 4.3.6.1 4.3.6.4 4.3.6.3 4.3.8.2 5.3.6.1 5.3.6.4	8045 8045 8045 8045 8045 8045 8045	WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM	LOSS OF OUTPUT LOSS OF OUTPUT
2.3.6.2 2.3.8.1 4.3.6.2 4.3.8.1 5.3.6.2 5.3.7.1 2.3.6.1 2.3.6.4	8046 8046 8046 8046 8046 3046 8047	WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM	PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/ LOSS OF OUTPUT LOSS OF OUTPUT
4.3.6.1 4.3.6.4 5.3.6.4 2.3.6.2 2.3.8.1 4.3.6.2 4.3.8.1 5.3.6.2 5.3.6.2 2.2.6.1	8047 8047 8047 8047 8048 8048 8048 3048 8048	WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM WIDE ANGLE LENS ASSEM COLOR LENS ASSEMBLY (LOSS OF OUTPUT LOSS OF OUTPUT LOSS OF OUTPUT PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/ PHYSICAL BINDING/
2.2.6.4 2.2.6.2	8053 8054	COLOR LENS ASSEMBLY (COLOR LENS ASSEMBLY (LOSS OF OUTPUT PHYSICAL BINDING/

NASA FMEA	MDAC-ID	ITEM	FAILURE MODE
NASA FMEA	8103 8104 8123 8124 8125 8127 8128 8129 8129 8129 8129 8244 8245 8247 8245 8247 8246 8247 82260 8265 8265 8265 8277 8277 8277 8277 8277 8277 8277 827	TV CAMERA CMD PAN SWI TV CAMERA CMD PAN SWI TV CAMERA CMD PAN SWI TV VIDEO INPUT PBI [T TV VIDEO INPUT PBI [T TV VIDEO INPUT PBI [T TV VIDEO INPUT PBI [T TV VIDEO INPUT PBI [T TV VIDEO INPUT PBI [T TV VIDEO INPUT PBI [T TV VIDEO INPUT PBI [T TV VIDEO INPUT PBI [T TV VIDEO INPUT PBI [T TV VIDEO INPUT PBI [T TV C A MONOCHROME LENS TVC A MONOCHROME LENS TVC B MONOCHROME LENS TVC C MONOCHROME LENS TVC C MONOCHROME LENS TVC D MONOCHROME LENS TVC D MONOCHROME LENS TVC A MONOCHROME LENS TVC A MONOCHROME LENS TVC B MONOCHROME LENS TVC B MONOCHROME LENS TVC C MONOCHROME LENS TVC C MONOCHROME LENS TVC D MONOCHROME LENS TVC D MONOCHROME LENS TVC D MONOCHROME LENS TVC D MONOCHROME LENS TVC D MONOCHROME LENS TVC D MONOCHROME LENS TVC D MONOCHROME LENS TVC D MONOCHROME LENS TVC D MONOCHROME LENS TVC A MONOCHROME LENS TVC A MONOCHROME LENS TVC A MONOCHROME LENS TVC A MONOCHROME LENS TVC A MONOCHROME LENS TVC A MONOCHROME LENS TVC A COLOR LENS ASSY TVC A COLOR LENS ASSY TVC A COLOR LENS ASSY TVC A COLOR LENS ASSY TVC A COLOR LENS ASSY TVC A COLOR LENS ASSY TVC A COLOR LENS ASSY TVC A COLOR LENS ASSY TVC A COLOR LENS ASSY TVC A COLOR LENS ASSY TVC A COLOR LENS ASSY TVC A COLOR LENS ASSY	FAILS TO SWITCH ELECTRICAL OPEN S FAILS TO SWITCH ELECTRICAL OPEN/S FAILS TO SWITCH
-	8308	TVC A COLOR LENS ASSY	

NASA FMEA	MDAC-ID	ITEM	FAILURE MODE
	8318	TVC C COLOR LENS ASSY	ELECTRICAL OPEN/S
	8319 8320	TVC C COLOR LENS ASSY TVC C COLOR LENS ASSY TVC D COLOR LENS ASSY TVC D COLOR LENS ASSY TVC D COLOR LENS ASSY TVC D COLOR LENS ASSY TVC D COLOR LENS ASSY TVC D COLOR LENS ASSY TVC D COLOR LENS ASSY TVC D COLOR LENS ASSY CONSOLE MONITOR PWR S CONSOLE MONITOR PWR S CONSOLE MONITOR SYNC CONSOLE MONITOR SOURC CONSOLE MONITOR BRIGH CB 39 FWD BAY TVC & P CB 40 FWD BAY TVC HTR CB 41 FWD BAY P/T HTR	FAILS TO SWITCH ELECTRICAL OPEN/S
	8321	TVC D COLOR LENS ASSY	FAILS TO SWITCH
	8322	TVC D COLOR LENS ASSY	ELECTRICAL OPEN/S
	8323	TVC D COLOR LENS ASSY	FAILS TO SWITCH
	8324	TVC D COLOR LENS ASSY	ELECTRICAL OPEN/S
	8325	TVC D COLOR LENS ASSY	FAILS TO SWITCH
	8326 8363	CONCOLE MONITOR PWP C	ELECTRICAL OPEN/S FAILS TO SWITCH
	8364	CONSOLE MONITOR PWR S	OPEN/SHORT
	8368	CONSOLE MONITOR SYNC	OPEN/SHORT
	8374	CONSOLE MONITOR SOURC	OPEN/SHORT
:	8376	CONSOLE MONITOR BRIGH	OPEN/SHORT
05-6PK-20201-1	8505	CB 39 FWD BAY TVC & P	FAIL OPEN
05-6PK-20202-1	8507	CB 40 FWD BAY TVC HTR CB 41 FWD BAY P/T HTR	FAIL OPEN
05-6PK-20202-1	8511	CB 34 AFT BAY TVC & P	FAIL OPEN
05-6PK-20202-1	8513	CB 34 AFT BAY TVC & P CB 35 AFT BAY TVC HTR	FAIL OPEN
05-6PK-20201-1 05-6PK-20202-1 05-6PK-20202-1 05-6PK-20201-1 05-6PK-20202-1 05-6PK-20202-1 05-6PK-20201-1 05-6PK-20201-1 05-6PK-20201-1	8515	CB 36 AFT BAY P/T HTR	FAIL OPEN
05-6PK-20201-1	8517	CB 45 KEEL/EVA TVC &	FAIL OPEN
05-6PK-20201-1	8519		FAIL OPEN
05-6PK-20202-1	8521 8527		FAIL OPEN
	8527 8529		
05-6PK-20101-1	8531		FAIL OPEN
05-6PK-20102-1	8533		FAIL OPEN
06-6PK-20102-1		CB 57 PORT RMS P/T HT	FAIL OPEN
	10502	EMU/TV-BATTERY PACK	VENTING/EXPLOSION
05-6PH-24800-1	11007	GCIL DRIVER, NETWORK	LOSS OF OUTPUT
NONE 05-69H-24800-2	11008	GCIL DRIVER, KU-BAND GCIL DRIVER, KU-BAND GCIL DRIVER, CCTV SYS SWITCH, QUAD ANTENNA	LOSS OF OUTPUT
05-6PH-24800-4	11010	GCIL DRIVER, CCTV SYS	LOSS OF OUTPUT
05-2G-23510-3	21073	SWITCH, QUAD ANTENNA	SHORTED
05-2G-212841-2	21078	DIODE, NSP ENCRIPTION	SHUKTED
05-2R-5100-3	24062	KU BD EA-1 (INTERFACE	FAILS TO INHIBIT
05-2R-5200-3	. 24063	RR EA-2 (RADAR SIGNAL KU BD DEA (DEPLOYED E	FAILS TO COMMAND LOSS OF TX INHIBI
05-2R-5300-3 05-2R-5300-6	24064 24065	KU BD DEA (DEPLOYED E	LOSS OF CONTROL O
05-2B-22101-1	25015	SWITCH, UHF MODE ROTA	FAILS TO REMAIN O
05-2B-22101-2	25016	SWITCH, UHF MODE ROTA	SHORTED
05-2B-22101-4	25017	SWITCH, UHF MODE ROTA	SHORTED
05-2B-22101-5	25018	SWITCH, UHF MODE ROTA	FAILS TO REMAIN O
05-2A-21948-2	25020	SWITCH, UHF AIR-TO-AI SWITCH, UHF AIR-TO-AI	SHORTED SHORTED
05-2A-21949-2 05-2C-22200-4	25023 27056	TACAN	BLANKING PULSE FA
05-2C-22200-4 05-2C-22200-5	27057	TACAN	BLANKING PULSE FA
05-2D-23300-1	27059	RADAR ALTIMETER, ANTE	
05-2F-22601-2	27061	MSBLS RF WAVEGUIDE AS	BROKEN WAVEGUIDE

NASA FMEA	MDAC-ID	ITEM	FAILURE MODE
2.4.4.2	28378	PAN AND TILT UNIT LIM	FAILS SHORTED
2.1.6.4 2.3.6.4 2.2.6.4	28384 28390 28400	MONOCHROME LENS ASSEM WIDE ANGLE LENS ASSEM COLOR LENS ASSEMBLY I	FAILS SHORTED FAILS SHORTED FAILS SHORTED

And the second s

.

APPENDIX E DETAILED ANALYSIS

This appendix contains the IOA analysis worksheets supplementing previous results reported in STSEOS Working Paper 1.0-WP-VA87001-09, Analysis of the Communication and Tracking Subsytem (31 December 1987). Prior results were obtained independently and documented before starting the FMEA/CIL assessment activity. Supplemental analysis was performed to address failure modes not previously considered by the IOA. Each sheet identifies the hardware item being analyzed, parent assembly and function performed. For each failure mode possible causes are identified, and hardware and functional criticality for each mission phase are determined as described in NSTS 22206, Instructions for Preparation of FMEA and CIL, 10 October 1986. Failure mode effects are described at the bottom of each sheet and worst case criticality is identified at the top.

LEGEND FOR IOA ANALYSIS WORKSHEETS

Hardware Criticalities:

- 1 = Loss of life or vehicle
- 2 = Loss of mission or next failure of any redundant item
 (like or unlike) could cause loss of life/vehicle
- 3 = All others

Functional Criticalities:

- 1R = Redundant hardware items (like or unlike) all of which,
 if failed, could cause loss of life or vehicle.
- 2R = Redundant hardware items (like or unlike) all of which,
 if failed, could cause loss of mission.

Redundancy Screen A:

- 1 = Is Checked Out PreFlight
- 2 = Is Capable of Check Out PreFlight
 3 = Not Capable of Check Out PreFlight
- NA = Not Applicable

Redundancy Screens B and C:

- P = Passed Screen
- F = Failed Screen
- NA = Not Applicable

DATE:

2/08/88

HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK

FLIGHT:

3/2R

MDAC ID: 21071

ABORT:

3/3

ITEM:

SWITCH, QUAD ANTENNA ROTARY SELECTOR

FAILURE MODE: OPEN (ELECTRICAL)

LEAD ANALYST: A.W. ADDIS

SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- S-BAND PM SYSTEM
- SWITCH, QUAD ANTENNA SELECTOR 3)

4)

5)

6)

7)

8)

9)

LOCATION:

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/2R	TAL:	3/3
ONORBĪT:	3/2R	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
TANDING /SARING	3/3		•

REDUNDANCY SCREENS: A [2] B [NA] C [P]

LANDING/SAFING: 3/3

PANEL C3

PART NUMBER: ME452-0093-5042

CAUSES: CONTAMINATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

THE SWITCH PERMITS AUTOMATIC (GPC) OR MANUAL SELECTION FROM THE FOUR DUAL-BEAM QUAD ANTENNAS. LOSS OF ALL CAPABILITY TO SELECT OPTIMUM ANTENNA COULD REQUIRE VEHICLE ATTITUDE THAT WOULD RESULT IN LOSS OF PRIME MISSION OBJECTIVES.

DATE: 2/08/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/2R MDAC ID: 21072 ABORT: 3/3

ITEM: SWITCH, QUAD ANTENNA ROTARY SELECTOR FAILURE MODE: PHYSICAL BINDING/JAMMING, SHORTED

LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) S-BAND PM SYSTEM
- 3) SWITCH, QUAD ANTENNA SELECTOR

4)

5)

6)

7)

8) 9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/2R	TAL:	3/3
ONORBIT:	3/2R	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING	: 3/3		

REDUNDANCY SCREENS: A [2] B [NA] C [P]

LOCATION: PANEL C3

PART NUMBER: ME452-0093-5042

CAUSES: CONTAMINATION, PIECE-PART FAILURE, VIBRATION

EFFECTS/RATIONALE:

THE SWITCH PERMITS AUTOMATIC (GPC) OR MANUAL SELECTION FROM THE FOUR DUAL-BEAM QUAD ANTENNAS. LOSS OF ALL CAPABILITY TO SELECT OPTIMUM ANTENNA COULD REQUIRE VEHICLE ATTITUDE THAT WOULD RESULT IN LOSS OF PRIME MISSION OBJECTIVES.

_ . 2/08/88 HIGHEST CRITICALITY HDW/FUNC DATE: SUBSYSTEM: COMM AND TRACK FLIGHT: 2/2 3/3 ABORT: MDAC ID: 21073 SWITCH, QUAD ANTENNA ROTARY SELECTOR ITEM: FAILURE MODE: SHORTED LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W.ADDIS BREAKDOWN HIERARCHY: 1) COMM & TRACK S-BAND PM SYSTEM 2) SWITCH, QUAD ANTENNA SELECTOR 4) 5) 6) 7) 8) 9) CRITICALITIES HDW/FUNC ABORT FLIGHT PHASE HDW/FUNC RTLS: PRELAUNCH: 3/3 3/3 LIFTOFF: 2/2 TAL: 3/3 2/2 AOA: 3/3 ONORBIT: ATO: DEORBIT: 3/3 3/3 LANDING/SAFING: 3/3 REDUNDANCY SCREENS: A [] B [] C [] LOCATION: PART NUMBER: CAUSES: CONTAMINATION, PIECE-PART FAILURE, VIBRATION EFFECTS/RATIONALE: THE SWITCH PERMITS AUTOMATIC (GPC) OR MANUAL SELECTION FROM THE FOUR DUAL-BEAM QUAD ANTENNAS. SHORT TO GROUND COULD CAUSE LOSS OF BOTH GPC AND MANUAL SELECTION OF QUAD ANTENNAS, RESULTING IN LOSS OF MISSION.

HIGHEST CRITICALITY HDW/FUNC 2/08/88 DATE: FLIGHT: 3/3 SUBSYSTEM: COMM AND TRACK 3/3 ABORT: MDAC ID: 21074 SWITCH, NSP ENCRYPTION POWER ON-OFF ITEM: FAILURE MODE: SHORTED LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W.ADDIS BREAKDOWN HIERARCHY: 1) COMM & TRACK S-BAND PM SYSTEM 2) 3) SIGNAL PROCESSING COMSEC 4) ENCRYPTION ON-OFF SWITCH 5) 6)

CRITICALITIES

	C1/T T T C1/		
FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3.	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING	: 3/3		•

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: PANEL A1

PART NUMBER: ME452-0102-7201

CAUSES: CONTAMINATION, PIECE-PART FAILURE, VIBRATION

EFFECTS/RATIONALE:

BRIDING CONTACT SHORT COULD PREVENT POWER REMOVAL FROM COMSEC LRU AND CAUSE LOSS OF ONE METHOD OF ZEROIZING ENCRYPTOR.

REFERENCES:

7) 8) 9)

DATE:

2/09/88

HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM:

COMM AND TRACK

FLIGHT:

3/2R

MDAC ID:

21075

ABORT:

3/3

ITEM:

SWITCH, QUAD/HEMI ANTENNA ELECTRONICS POWER

FAILURE MODE: PHYSICAL BINDING/JAMMING, OPEN (ELECTRICAL)

LEAD ANALYST: A.W. ADDIS

SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) S-BAND PM SYSTEM
- 3) QUAD ANTENNAS
- 4) ANTENNA ELECTRONICS
- POWER SWITCH 5)

6)

7)

8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/2R	TAL:	3/3
ONORBIT:	3/2R	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3.
LANDING/SAFING:	3/3	•	

REDUNDANCY SCREENS: A [2] B [NA] C [P]

LOCATION: PANEL A1

PART NUMBER: ME452-0102-7203

CAUSES: CONTAMINATION, PIECE-PART FAILURE, VIBRATION

EFFECTS/RATIONALE:

THE SWITCH CONTROLS POWER TO ONE OF THE TWO REDUNDANT ANTENNA CONTROL ELECTRONICS SETS IN GCIL PANEL OR COMMAND MODE. LOSS OF ALL CAPABILITY TO CONTROL QUAD ANTENNA SELECTION COULD CAUSE LOSS OF MISSION OBJECTIVES, BUT VEHICLE ATTITUDE COULD BE CONTROLLED TO MAINTAIN S-BAND PM COMM.

REFERENCES: VS70-740259, VS70-740299

DATE: 2/10/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/2R MDAC ID: 21076 ABORT: 3/3

ITEM: SWITCH, QUAD/HEMI ANTENNA ELECTRONICS POWER

FAILURE MODE: SHORTED

LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) S-BAND PM SYSTEM
- 3) QUAD ANTENNAS
- 4) ANTENNA ELECTRONICS
- 5) POWER SWITCH
- 6)
- 7)
- 8)
- 9)

CRITICALITIES

FLIGHT PHASE H	DW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/2R	TAL:	3/3
ONORBIT:	3/2R	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [NA] C [P]

LOCATION: PANEL A1

PART NUMBER: ME452-0102-7203

CAUSES: CONTAMINATION, PIECE-PART FAILURE, VIBRATION

EFFECTS/RATIONALE:

THE SWITCH CONTROLS POWER TO ONE OF THE TWO REDUNDANT ANTENNA CONTROL ELECTRONICS SETS IN GCIL PANEL OR COMMAND MODE. LOSS OF ALL CAPABILITY TO CONTROL QUAD ANTENNA SELECTION COULD CAUSE LOSS OF MISSION OBJECTIVES, BUT VEHICLE ATTITUDE COULD BE

REFERENCES: VS70-740259, VS70-740299

DATE:

2/10/88

HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK

FLIGHT:

3/1R

MDAC ID: 21077

ABORT:

grania a servicio a

3/1R

ITEM:

RELAY ASSEMBLY, PM TRANSPONDER SIGNAL STRENGTH

SELECT

FAILURE MODE: OPEN (ELECTRICAL), SHORTED

LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) S-BAND PM SYSTEM
- 3) PM TRANSPONDER
- 4) SIGNAL STRENGTH SELECT

5)

6)

7)

8) 9)

CRITICALITIES

to the state of th			of the factories and the con-
FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/1R	TAL:	3/3
ONORBIT:	3/1R	AOA:	3/1R
DEORBIT:	3/3	ATO:	3/1R
LANDING / SAFING	· 3/3		•

LANDING/SAFING: 3/3

REDUNDANCY SCREENS: A [2] B [NA] C [P]

LOCATION:

PANEL A1

PART NUMBER: ME452-0131-1002

CAUSES: CONTAMINATION, PIECE-PART FAILURE, VIBRATION

EFFECTS/RATIONALE:

PROVIDES CAPABILITY TO SELECT TRANSPONDER FOR RF RECEIVED SIGNAL STRENGTH. SHORT TO GROUND COULD CAUSE LOSS OF AFFECTED TRANSPONDER. WITH LOSS OF REDUNDANT TRANSPONDER ONLY REMAINING PATH FOR STATE VECTOR UPDATE IS UHF VOICE. LOSS OF THAT PATH COULD RESULT IN LOSS OF CREW/VEHICLE.

REFERENCES: VS70-740129

HIGHEST CRITICALITY HDW/FUNC 2/10/88 DATE: FLIGHT: 2/2 COMM AND TRACK SUBSYSTEM: 3/3 ABORT: 21078 MDAC ID: DIODE, NSP ENCRYPTION SELECT CIRCUIT ITEM: FAILURE MODE: SHORTED SUBSYS LEAD: A.W.ADDIS LEAD ANALYST: A.W. ADDIS BREAKDOWN HIERARCHY: COMM & TRACK S-BAND PM/NSP SYSTEM 2) 3) ENCRYPTION SELECT ISOLATION DIODES 4) 5) 6) 7) 8)

CRITICALITIES

<u> </u>		
HDW/FUNC	ABORT	HDW/FUNC
3/3	RTLS:	3/3
2/2	TAL:	3/3
2/2	AOA:	3/3
3/3	ATO:	3/3
3/3 -	•	
	HDW/FUNC 3/3 2/2 2/2 3/3	3/3 RTLS: 2/2 TAL: 2/2 AOA: 3/3 ATO:

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: PANEL A1
PART NUMBER: JANTXVIN4246

CAUSES: CONTAMINATION, PIECE-PART FAILURE, VIBRATION

EFFECTS/RATIONALE:

DIODES STEER MODE CONTROL SIGNALS TO NSP FOR "RECORD CLEAR" AND "RECORD ENCRYPTED" FUNCTIONS. FAILURE OF CR2, FOR EXAMPLE, COULD PERMIT CLASSIFIED INFORMATION TO BE RECORDED CLEAR AND THEN TRANSMITTED. SUCH FAILURE COULD CAUSE MISSION TERMINATION.

REFERENCES: VS70-740229

2/12/88 HIGHEST CRITICALITY HDW/FUNC DATE: SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3 3/3 MDAC ID: 21079 ABORT: RESISTOR, QUAD ANTENNA POSITION INDICATOR ITEM: FAILURE MODE: OPEN (ELECTRICAL) LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W.ADDIS BREAKDOWN HIERARCHY: 1) COMM & TRACK 2) S-BAND PM SYSTEM 3) QUAD ANTENNA CONTROLS 4) RESISTOR, ANTENNA POSITION INDICATOR 5) 6) 7) 8) 9) CRITICALITIES HDW/FUNC ABORT HDW/FUNC FLIGHT PHASE PRELAUNCH: 3/3 RTLS: 3/3 3/3 TAL: 3/3 LIFTOFF: 3/3 3/3 AOA: ONORBIT: DEORBIT: 3/3 ATO: 3/3 LANDING/SAFING: 3/3 REDUNDANCY SCREENS: A [] B [] C [] PANEL C3 LOCATION: PART NUMBER: RLR07C5101GR CAUSES: CONTAMINATION, PIECE-PART FAILURE, VIBRATION EFFECTS/RATIONALE: THE FOUR RESISTORS ARE USED TO LIMIT CURRENT IN THE ANTENNA SELECTION INDICATION CIRCUIT. LOSS OF FUNCTION WOULD NOT AFFECT MISSION OR ENDANGER CREW/VEHICLE.

HIGHEST CRITICALITY HDW/FUNC DATE: 2/11/88 3/3 FLIGHT: SUBSYSTEM: COMM AND TRACK

MDAC ID: 22514

3/3 ABORT:

ITEM:

CIRCUIT, SWITCH SCAN, FM SYSTEM

FAILURE MODE: OPEN (ELECTRICAL)

LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- S-BAND FM SYSTEM 2)
- 3) RF COMM
- 4) S-BAND FM RF SWITCH
- 5) SWITCH SCAN CIRCUIT

6)

7)

8) 9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3 '
LANDING/SAFING	: 3/3	•	•

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: PANEL A1

PART NUMBER: RLR07C5101GR, JANTXVIN4246

CAUSES: CONTAMINATION, MISHANDLING/ABUSE, PIECE-PART FAILURE,

VIBRATION

EFFECTS/RATIONALE:

CIRCUIT PROVIDES TELEMETRY RF SWITCH SCAN INDICATION FOR S-BAND FM SYSTEM. CIRCUITRY INCLUDES ANTENNA SELECT SWITCH, FOUR RESISTORS, FOUR DIODES. LOSS OF CIRCUITRY FUNCTION WOULD NOT AFFECT MISSION OR CREW/VEHICLE.

DATE: 2/03/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/1R MDAC ID: 23032 ABORT: 3/1R

ITEM: SWITCH, S-BAND PAYLOAD PNL/CMD GCIL

FAILURE MODE: SHORTED

LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) S-BAND PL SYSTEM
- 3) GCIL MODE SWITCH

4)

5)

6)

7) 8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/1R	TAL:	3/3
ONORBIT:	3/1R	AOA:	3/1R
DEORBIT:	3/1R	ATO:	3/1R
LANDING/SAFING	3/3	• • • • • • • • • • • • • • • • • • • •	

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION: PANEL A1

PART NUMBER: MC452-0102-7201

CAUSES: CONTAMINATION, MISHANDLING/ABUSE, PIECE-PART FAILURE, VIBRATION

EFFECTS/RATIONALE:

THE PNL/CMD GCIL SWITCH PERMITS PANEL CONTROL OF THE PAYLOAD COMM SYSTEM IN PNL MODE AND CONTROL VIA GROUND COMMANDS OR KEYBOARD IN CMD MODE. WORST-CASE SHORT TO GROUND COULD OPEN BOTH MNA, MNC CIRCUIT BREAKERS, KILLING COMMAND MODE FOR ALL FIVE GCIL COMM SYSTEMS, INCLUDING S-BAND PM. LOSS OF ALL PATHS FOR UPDATING STATE VECTOR, INCLUDING S-BAND PM IN PNL MODE AND UHF VOICE COULD RESULT IN LOSS OF CREW/VEHICLE.

REFERENCES: VS70-740239, SSSH 16.14, 16.15, 16.17, INCO/COMM SYS BRIEF 31, 34, JSC-12820 FLIGHT RULES SECTION 11, OMRSD V74 FILE III

DATE: 2/03/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/2R MDAC ID: 23033 ABORT: 3/3

ITEM: SWITCH, S-BAND PAYLOAD PNL/CMD GCIL

FAILURE MODE: SHORTED

LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) S-BAND PL SYSTEM
- 3) GCIL MODE SWITCH
- 4)
- 5)
- 6)
- 7)
- 8) 9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/2R	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION: PANEL A1

PART NUMBER: MC452-0102-7201

CAUSES: CONTAMINATION, MISHANDLING/ABUSE, PIECE-PART FAILURE,

VIBRATION

EFFECTS/RATIONALE:

THE PNL/CMD SWITCH PERMITS PANEL CONTROL OF THE PAYLOAD COMM SYSTEM IN PNL MODE AND CONTROL VIA GROUND COMMANDS OR KEYBOARD IN CMD MODE. CONTACT-TO-CONTACT SHORTS COULD CAUSE LOSS OF PANEL MODE CONTROL. SUBSEQUENT FAILURE OF GCIL HARDWARE COULD CAUSE LOSS OF ALL CAPABILITY TO CONTROL THE SYSTEM, AND COULD RESULT IN LOSS OF MISSION OBJECTIVES.

REFERENCES: VS70-740239, SSSH 16.14, 16.15, 16.17, INCO/COMM SYS BRIEF 31, 34, JSC-12820 FLIGHT RULES SECTION 11, OMRSD V74 FILE III

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 2/2 MDAC ID: 24062 ABORT: 3/3

ITEM: KU BD EA-1 (INTERFACE AND CONTROL UNIT)
FAILURE MODE: FAILS TO INHIBIT TRANSMITTER WHILE ANT IN

OBSCURATION

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) KU COMM
- 3) KU-BAND COMM/RADAR
- 4) EA-1

5)

6)

7) 8)

9)

CRITICALITIES

CRITICALLILLO			
HDW/FUNC	ABORT	HDW/FUNC	
3/3	RTLS:	3/3	
3/3	TAL:	3/3	
3/3	AOA:	3/3	
3/3	ATO:	3/3	
3/3			
	HDW/FUNC 3/3 3/3 3/3 3/3	3/3 RTLS: 3/3 TAL: 3/3 AOA: 3/3 ATO:	

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: BAY 3A

PART NUMBER: EA-1 MC403-0025-1001

CAUSES: MECHANICAL SHOCK, VIBRATION, CONTAMINATION, PIECE-PART

FAILURE, TEMPERATURE, LOSS OF INPUT

EFFECTS/RATIONALE:

COMM SECT OF KU-BD COMM/RDR SYS OPERATES IN SINGLE STRING CONFIG TO PROVIDE A TDRSS LINK BETWEEN THE GND AND ORB. THE COMM SECT PROVIDES ORB UP AND DOWNLINK DATA; UP VO/CMDS AND DN VO/TLM/TV/RCDR PB DATA INCLUDING STATE VECTOR (SV) UPDATES. LOSS OF ALL MEANS FOR PROVIDING THIS CAP VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE RESULT IN LOSS OF VEHICLE AND CREW. (UNLIKE- REDUNDANCY EXITST VIA TWO S-BAND PM AND FM SYSTEMS PLUS VO ONLY VIA UHF SYS.) LOSS OF SV UPDATES PRESENTS WORST CASE CONDITION. FAILURE TO INHIBIT TX COULD CONTAMINATE P/L EXPERIMENT AND RESULT IN LOSS OF MISSION. HIGH REFLECTED POEWR WILL INITIATE TWT DISABLE WHILE IN THIS CONDITION.

REFERENCES: SYSTEM SCHEMATIC VS70-740109, SSSH 16.1 & 16.5, OMRS NSTS 08171 FILE III, INCO/COMM/HSC-18611 BRIEF SECTION 18

REPORT DATE 03/18/88

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 2/2 MDAC ID: 24063 ABORT: 3/3

ITEM: RR EA-2 (RADAR SIGNAL PROCESSOR)

FAILURE MODE: FAILS TO COMMAND DA TO SELECT RF POWER SETTING

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) NAVAIDS
- 3) KU-BAND COMM/RADAR
- 4) RENDEZVOUS RADAR (RR)
- 5) EA-2 RADAR SIGNAL PROCESSOR

6)

7) 8)

9)

CRITICALITIES

	O1(1 1 # O1)		
FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	2/2	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: BAY 3A

PART NUMBER: EA2 MC409-0025-2001

CAUSES: MECHANICAL SHOCK, VIBRATION, CONTAMINATION, PIECE-PART

FAILURE, TEMPERATURE, LOSS OF INPUT

EFFECTS/RATIONALE:

THE RENDEZVOUS RADAR SECTION OF THE KU-BAND COMM/RADAR SYSTEM OPERATES IN A SINGLE STRING CONFIGURATION TO SEARCH, ACQUIRE, AND TRACK DETACHED PAYLOADS WITHIN 12 NM OF HTE ORBITER. THE RADAR PROVIDES TARGET DATA CONSISTING OR RANGE, RANGE RATE, ANGLE AND ANGLE RATE DURING RENDEZVOUS MANEUVERS. LOSS OF ALL CAPABILITY FOR DETERMINING THIS INFORMATION COULD RESULT IN LOSS OF PAYLOAD RECOVERY CAPABILITY WHICH COULD RESULT IN LOSS OF MISSION. (UNLIKE-REDUNDANCY FOR OBTAINING TARGET ANGLES EXISTS VIA THE STAR TRACKER AND COAS.) LOSS OF RR POWER LEVEL CONTROL COULD REDUCE OPERATIONS RANGE BELOW NEEDED CAPABILITY TO CAPTURE/TRACK DETACHED PAYLOAD OR SATELLITE RESULTING IN POSSIBLE LOSS OF MISSION.

REFERENCES: SYSTEM SCHEMATIC VS70-740109, SSSH 16.1 & 16.5, OMRS NSTS 08171 FILE III, INCO/COMM/HSC-18611 BRIEF SECTION 18

HIGHEST CRITICALITY HDW/FUNC 2/13/88 DATE: SUBSYSTEM: COMM AND TRACK FLIGHT: 2/2 3/3

MDAC ID: 24064 ABORT:

KU BD DEA (DEPLOYED ELECTRONIC ASSY) FAILURE MODE: LOSS OF TX INHIBIT, FAILS TO INHIBIT TX WHILE ANT

IN OBSCURATION ZONE

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- KU COMM
- 3) KU-BAND COMM/RADAR
- 4)
- 5)

ITEM:

- 6)
- 7)
- 8) 91

CRITICALITIES

	V.(
FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC	
PRELAUNCH:	3/3	RTLS:	3/3	
LIFTOFF:	3/3	TAL:	3/3	
ONORBÍT:	2/2	AOA:	3/3	
DEORBIT:	3/3	ATO:	3/3	
LANDING/SAFING:	3/3		·	

A[] B[] C[REDUNDANCY SCREENS:

LOCATION: PAYLOAD BAY

PART NUMBER: KU DA MC403-0025-3001

CAUSES: MECHANICAL SHOCK, VIBRATION, CONTAMINATION, PIECE-PART

FAILURE, TEMPERATURE

EFFECTS/RATIONALE:

COMM SECT OF KU-BD COMM/RDR SYS OPERATES IN SINGLE STRING CONFIG TO PROVIDE A TORSS LINK BETWEEN THE GND AND ORB. THE COMM SECT PROVIDES ORB UP AND DOWNLINK DATA; UP VO/CMDS AND DN VO/TLM/TV/RCDR PB DATA INCLUDING STATE VECTOR (SV) UPDATES. LOSS OF ALL MEANS FOR PROVIDING THIS CAP VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE RESULT IN LOSS OF VEHICLE AND CREW. (UNLIKE- REDUNDANCY EXISTS VIA TWO S-BAND PM AND FM SYSTEMS PLUS VO ONLY VIA UHF SYS.) LOSS OF SV UPDATE PRESENTS WORST CASE CONDITION. DEA PROVIDES RCVR/EXCITER ELECTRONICS FOR TRANSMISSION AND RECEPTION OF KU BD SIGNALS. FAILURE TO INHIBIT TX COULD CONTAMINATE P.L RESULTING IN POTENTIAL LOSS OF MISSION.

REFERENCES: SYSTEM SCHEMATIC VS70-740109, SSSH 16.1 & 16.5, OMRS NSTS 08171 FILE III, INCO/COMM/HSC-18611 BRIEF SECTION 18

REPORT DATE 03/18/88

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 2/1R MDAC ID: 24065 ABORT: 3/3

ITEM: KU BD DEA (DEPLOYED ELECTRONIC ASSY) THERMOSTATS

FAILURE MODE: LOSS OF CONTROL OF HEATER ELEMENTS

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) KU COMM
- 3) KU-BAND COMM/RADAR
- 4) DMA
- 5) THERMOSTATS

6)

7)

8) 9)

CRITICALITIES

01/4 1 # 01122 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			
FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	2/2	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		-

REDUNDANCY SCREENS: A [] B [] C []

LOCATION:

DDMA

PART NUMBER: MC409-0025-300X

CAUSES: MECHANICAL SHOCK, VIBRATION, CONTAMINATION, PIECE-PART FAILURE, TEMPERATURE

EFFECTS/RATIONALE:

COMM SECT OF KU-BD COMM/RDR SYS OPERATES IN SINGLE STRING CONFIG TO PROVIDE A TDRSS LINK BETWEEN THE GND AND ORB. THE COMM SECT PROVIDES ORB UP AND DOWNLINK DATA; UP VO/CMDS AND DN VO/TLM/TV/RCDR PB DATA INCLUDING STATE VECTOR (SV) UPDATES. LOSS OF ALL MANS FOR PROVIDING THIS CAP VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE RESULT IN LOSS OF VEHICLE AND CREW. (UNLIKE- REDUNDANCY EXISTS VIA TWO S-BAND PM AND FM SYSTEMS PLUS VO ONLY VIA UHF SYS.) LOSS OF SV UPDATES PRESENTS WORST CASE CONDITION. DMA PROVIDES ANTENNA AND GIMBAL MOTORS OF POINTING ANT. EXCESSIVE TEMPERATURE COULD DAMAGE GIMBALS PREVENTING ADEQUATE ANTENNA CONTROL. FAILURE WOULD CAUSE LOSS OF MISSION AND LOSS OF ALL CAP COULD RESULT IN LOSS OF STOW CAP.

REFERENCES: SYSTEM SCHEMATIC VS70-740109, SSSH 16.1 & 16.5, OMRS NSTS 08171 FILE III, INCO/COMM/HSC-18611 BRIEF SECTION 18

REPORT DATE 03/18/88

DATE:

2/13/88

HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK

FLIGHT:

3/2R

MDAC ID: 24066

ABORT:

3/3

ITEM:

KU BD DMA (DEPLOYED ELECTRONIC ASSY) TEMPERATURE

SENSOR

FAILURE MODE: LOSS OF TEMPERATURE MEASUREMENT

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- COMM & TRACK
- 2) KU COMM
- KU-BAND COMM/RADAR 3)
- 4) DMA
- TEMPERATURE SENSOR 5)

6)

7)

8)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/2R	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION:

DDMA

PART NUMBER: MC405-0025-300X

CAUSES: MECHANICAL SHOCK, VIBRATION, CONTAMINATION, PIECE-PART

FAILURE, TEMPERATURE

EFFECTS/RATIONALE:

COMM SECT OF KU-BD COMM/RDR OPERATES IN SINGLE STRING CONFIG TO PROVIDE A TORSS LINK BETWEEN THE GND AND ORB. THE COMM SECT PROVIDES ORB UP AND DOWNLINK DATA; UP VO/CMDS AND DN VO/TLM/TV/RCDR PB DATA INCLUDING STATE VECTOR (SV) UPDATES. LOSS OF ALL MEANS FOR PROVIDING THIS CAP VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE RESULT IN LOSS OF VEHICLE AND CREW. (UNLIKE- REDUNDANCY EXISTS VIA TWO S-BAND PM AND FM SYSTEMS PLUS VO ONLY VIA UHF SYS.) LOSS OF SV UPDATES PRESENTS WORST CASE CONDITION. FAILURE OF SENSOR HAS NO EFFECT ON HEATER BUT PREVENTS GND MONITORING OF TEMP AND FLT DIRECTOR COULD CURTAIL MISSION. UNLIKE REDUNDANCY THERMOSTAT AND MANUAL ON/OFF CONTROL.

REFERENCES: SYSTEM SCHEMATIC VS70-740109, SSSH 16.1 & 16.5, OMRS NSTS 08171 FILE III, INCO/COMM/HSC-18611 BRIEF SECTION 18

REPORT DATE 03/18/88 E-18

DATE: 2/01/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 2/1R MDAC ID: 25015 ABORT: 2/1R

ITEM: SWITCH, UHF MODE ROTARY SELECTOR

FAILURE MODE: FAILS TO REMAIN OPEN/CLOSED, FAILS MID-TRAVEL, FAILS TO OPEN/CLOSE, PHYSICAL BINDING/JAMMING, OPEN (ELECTRICAL)

LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) UHF EVA/ATC SYSTEM
- 3) SWITCH, ROTARY MODE SELECTOR

4)

5)

6)

7)

8) 9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	2/2	AOA:	2/1R
DEORBIT:	2/1R	ATO:	2/1R
LANDING/SAFING:	•		•

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION: PANEL 06

PART NUMBER: ME452-0093-5027

CAUSES: CONTAMINATION, PIECE-PART FAILURE, VIBRATION

EFFECTS/RATIONALE:

INABILITY TO SELECT EVA MODE COULD CAUSE LOSS OF MISSION OBJECTIVES DURING FLIGHT PHASE. WITH LOSS OF BOTH NSP'S BECAUSE OF POSSIBLE KU-BAND SIGNAL PROCESSOR FAILURE DISABLING BOTH NSP'S, UHF VOICE IS ONLY PATH FOR STATE VECTOR UPDATES. LOSS OF UHF FUNCTION COULD RESULT IN LOSS OF CREW/VEHICLE.

2/02/88 HIGHEST CRITICALITY HDW/FUNC DATE: SUBSYSTEM: COMM AND TRACK FLIGHT: 2/1R 25016 ABORT: 2/2 MDAC ID: SWITCH, UHF MODE ROTARY SELECTOR ITEM: FAILURE MODE: SHORTED LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W.ADDIS BREAKDOWN HIERARCHY: 1) COMM & TRACK 2) UHF EVA/ATC SYSTEM SWITCH, ROTARY MODE SELECTOR 3) 4) 5) 6) 7) 8) 9) CRITICALITIES HDW/FUNC ABORT HDW/FUNC FLIGHT PHASE RTLS: PRELAUNCH: 3/3 3/3 LIFTOFF: 3/3 TAL: 3/3 AOA: 2/1R ONORBIT: 2/2 ATO: DEORBIT: 2/1R 2/1R LANDING/SAFING: 3/3 REDUNDANCY SCREENS: A [] B [] C [

LOCATION:

PANEL 06

PART NUMBER: ME452-0093-5027

CAUSES: CONTAMINATION, PIECE-PART FAILURE, VIBRATION

EFFECTS/RATIONALE:

A SHORT FROM "QUARD T/R" CONTACT TO THE WIPER COMMON COULD PREVENT USE OF BOTH 259.7 MH2 AND 296.8 MH2 TRANSCEIVERS FOR EVA OR COMM WITH GROUND. SYSTEM WOULD BE USEABLE ONLY ON QUARD FREQUENCY (243 MH2), LOSS OF EVA COMM COULD CAUSE LOSS OF MISSION OBJECTIVES. WITH LOSS OF POWER TO BOTH NSP'S DUE TO POSSIBLE KU-BAND SIGNAL PROCESSOR FAILURE, ONLY UHF VOICE WOULD REMAIN FOR STATE VECTOR UPDATES. LOSS OF ALL CAPABILITY TO UPDATE STATE VECTOR COULD CAUSE LOSS OF CREW/VEHICLE.

DATE: 2/02/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 2/1R MDAC ID: 25017 ABORT: 2/2R

ITEM: SWITCH, UHF MODE ROTARY SELECTOR

FAILURE MODE: SHORTED

LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W. ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) UHF EVA/ATC SYSTEM
- 3) SWITCH, ROTARY MODE SELECTOR

4)

5)

6)

7) 8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC	
PRELAUNCH:	3/3	RTLS:	3/3	
LIFTOFF:	3/3	TAL:	3/3	
ONORBIT:	3/2R	AOA:	2/1R	
DEORBIT:	2/1R	ATO:	2/1R	
LANDING/SAFING	: 3/3		·	

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION: PANEL 06

PART NUMBER: ME452-0093-5027

CAUSES: CONTAMINATION, PIECE-PART FAILURE, VIBRATION

EFFECTS/RATIONALE:

A SHORT FROM "EVA" CONTACT TO WIPER COMMON WITH SWITCH IN "SIMPLEX" OR FROM "SIMPLEX" CONTACT TO WIPER COMMON WITH SWITCH IN "EVA" CAUSES LOSS OF RECEIVER SIGNAL ON 296.8 MH2 OR 259.7 MH2, RESPECTIVELY, BECAUSE THE TRANSMITTER ON THE AFFECTED FREQUENCY WILL BE HELD ON. WITH ONLY ONE EVC TRANSMIT/ORBITER RECEIVE CHANNEL AVAILABLE, AN ADDITIONAL FAILURE AFFECTING THAT LINK WOULD CAUSE EVA TERMINATION AND POSSIBLE LOSS OF MISSION. WITH "EVA" MODE ACTIVATED, PA WOULD BE BY-PASSED, LIMITING UHF RANGE. WITH LOSS OF POWER TO BOTH NSP'S DUE TO POSSIBLE KU-BAND SIGNAL PROCESSOR FAILURE, ONLY UHF VOICE WOULD REMAIN FOR STATE VECTOR UPDATES. LOSS OF ALL CAPABILITY TO UPDATE STATE VECOTR COULD CAUSE LOSS OF CREW/VEHICLE.

DATE:

2/02/88

HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK

FLIGHT: 2/1R

== :

MDAC ID: 25018

ABORT:

8/1R

ITEM:

SWITCH, UHF MODE ROTARY SELECTOR

FAILURE MODE: FAILS TO REMAIN OPEN/CLOSED, FAILS MID-TRAVEL, FAILS TO OPEN/CLOSE, PHYSICAL BINDING/JAMMING, OPEN (ELECTRICAL)

LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- COMM & TRACK 1)
- 2) UHF EVA/ATC SYSTEM
- 3) SWITCH, ROTARY MODE SELECTOR

4)

5)

6)

7)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	2/2	AOA:	2/1R
DEORBIT:	2/1R	ATO:	2/1R
LANDING/SAFING:	3/3		•

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION:

PANEL 06

PART NUMBER: ME452-0093-5027

CAUSES: CONTAMINATION, PIECE-PART FAILURE, VIBRATION

EFFECTS/RATIONALE:

A SHORT FROM "EVA" CONTACT TO WIPER COMMON WITH SWITCH IN "SIMPLEX" OR FROM "SIMPLEX" CONTACT TO WIPER COMMON WITH SWITCH IN "EVA" CAUSES LOSS OF RECEIVER SIGNAL ON 296.8 MH2 OR 259.7 MH2, RESPECTIVELY, BECAUSE THE TRANSMITTER ON THE AFFECTED FREQUENCY WILL BE HELD ON. WITH ONLY ONE EVC TRANSMIT/ORBITER RECEIVE CHANNEL AVAILABLE, AN ADDITIONAL FAILURE AFFECTING THAT LINK WOULD CAUSE EVA TERMINATION AND POSSIBLE LOSS OF MISSION. WITH "EVA" MODE ACTIVATED, PA WOULD BE BY-PASSED, LIMITING UHF RANGE. WITH LOSS OF POWER TO BOTH NSP'S DUE TO POSSIBLE KU-BAND SIGNAL PROCESSOR FAILURE, ONLY UHF VOICE WOULD REMAIN FOR STATE VECTOR UPDATES. LOSS OF ALL CAPABILITY TO UPDATE STATE VECOTR COULD CAUSE LOSS OF CREW/VEHICLE.

DATE: 2/10/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/1R MDAC ID: 25019 ABORT: 3/1R

ITEM: SWITCH, UHF AIR-TO-AIR (AUDIO CENTER)

FAILURE MODE: PHYSICAL BINDING/JAMMING, OPEN (ELECTRICAL)

LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) UHF SYSTEM
- 3) AUDIO CENTER
- 4) SWITCH, A/A
- 5)
- 6)
- 7)
- 8) 9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/1R	TAL:	3/3
ONORBIT:	3/1R	AOA:	3/1R
DEORBIT:	3/1R	ATO:	. 3/1R
TANDING (CARING.	ລ້/ລ		

LANDING/SAFING: 3/3

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION: PANEL A1

PART NUMBER: ME452-0102-7201

CAUSES: CONTAMINATION, PIECE-PART FAILURE, VIBRATION

EFFECTS/RATIONALE:

SWITCH PERMITS USE OF AUDIO SYSTEM A/A LOOP WITH THE UHF TRANSCEIVER FOR TWO-WAY VOICE COMM ORBITER-TO-GROUND OR ORBITER-TO-EVA CREWMEMBER. LOSS OF ALL CAPABILITY TO USE THE UHF FOR EVA OPS (VIA A/A, A/G1, OR A/G2 LOOP) COULD CAUSE MISSION LOSS. LOSS OF ALL CAPABILITY TO USE S-BAND PM (A/G1, A/G2 LOOPS) AND UHF (ALL LOOPS) WITH GROUND WOULD CAUSE LOSS OF STATE VECTOR UPDATE AND COULD RESULT IN LOSS OF CREW/VEHICLE.

DATE: 2/10/88 HIGHEST CRITICALITY HDW/FUNC

FLIGHT: SUBSYSTEM: COMM AND TRACK 2/1R ABORT: MDAC ID: 25020 3/1R

ITEM: SWITCH, UHF AIR-TO-AIR (AUDIO CENTER)

FAILURE MODE: SHORTED SHEET SHEET TO SAME TO SHEET SHE

LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) UHF SYSTEM
- 3) AUDIO CENTER
- 4) SWITCH, A/A

5)

6)

7)

8) 9)

CRITICALITIES

HDW/FUNC	ABORT	HDW/FUNC	
3/3	RTLS:	3/3	
2/1R	TAL:	3/3	
2/1R	AOA:	3/1R	
3/1R	ATO:	3/1R	
3/3	and the second	ន () () () បាន និង ។ ()	
	3/3 2/1R 2/1R 3/1R	3/3 RTLS: 2/1R TAL: 2/1R AOA: 3/1R ATO:	

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION: PANEL A1

PART NUMBER: ME452-0102-7201

CAUSES: CONTAMINATION, PIECE-PART FAILURE, VIBRATION

EFFECTS/RATIONALE:

SWITCH PERMITS USE OF AUDIO SYSTEM A/A LOOP WITH THE UHF TRANSCEIVER FOR TWO-WAY VOICE COMM ORBITER-TO-GROUND OR ORBITER-TO-EVA CREWMEMBER. LOSS OF ALL CAPABILITY TO USE THE UHF FOR EVA OPS (VIA A/A, A/G1, OR A/G2 LOOP) COULD CAUSE MISSION LOSS. LOSS OF ALL CAPABILITY TO USE S-BAND PM (A/G1, A/G2 LOOPS) AND UHF (ALL LOOPS) WITH GROUND WOULD CAUSE LOSS OF STATE VECTOR UPDATE AND COULD RESULT IN LOSS OF CREW/VEHICLE. NOTE: LOSS OF BOTH NSP's BECAUSE OF A SINGLE FAILURE (DIODE SHORT IN KU-BAND SIGNAL PROCESSOR) PLUS A SHORT IN THIS SWITCH THAT DISABLES THE UHF TRANSCEIVER COULD CAUSE LOSS OF ABILITY TO UPDATE STATE VECTOR AND RESULT IN LOSS OF CREW/VEHICLE.

DATE: 2/10/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3

MDAC ID: 25021 ABORT: 3/3

ITEM: SWITCH, UHF AIR-TO-AIR (AUDIO CENTER)

FAILURE MODE: FAILS TO OPEN/CLOSE, PHYSICAL BINDING/JAMMING

LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) UHF SYSTEM
- 3) AUDIO CENTER
- 4) SWITCH, A/A
- 5)
- 6)
- 7)
- 8)
- 9)

CRITICALITIES

FLIGHT PHASE H	IDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3	•	•

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: PANEL A1

PART NUMBER: ME452-0102-7201

CAUSES: CONTAMINATION, PIECE-PART FAILURE, VIBRATION

EFFECTS/RATIONALE:

SWITCH PERMITS USE OF AUDIO SYSTEM A/A LOOP WITH THE UHF TRANSCEIVER FOR TWO-WAY VOICE COMM ORBITER-TO-GROUND OR ORBITER-TO-EVA CREWMEMBER. CONTINUOUS RF OUTPUT CAUSED BY SWITCH JAMMED IN "ON" POSITION WOULD NOT CAUSE MISSION LOSS OR THREATEN CREW/VEHICLE.

DATE: 2/10/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/1R MDAC ID: 25022 ABORT: 3/1R

ITEM: SWITCH, UHF AIR-TO-AIR (AUDIO CENTER)

FAILURE MODE: PHYSICAL BINDING/JAMMING, OPEN (ELECTRICAL)

LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W. ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) UHF SYSTEM
- 3) AUDIO CENTER
- 4) SWITCH, A/G1, A/G2

5)

6)

7) 8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/1R	TAL:	3/3
ONORBIT:	3/1R	AOA:	3/1R
DEORBIT:	3/1R	ATO:	3/1R
LANDING/SAFING:	3/3	4.	

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION: PANEL A1

PART NUMBER: ME452-0102-7201

CAUSES: CONTAMINATION, PIECE-PART FAILURE, VIBRATION

EFFECTS/RATIONALE:

SWITCH PERMITS USE OF AUDIO SYSTEM A/G1, A/G2 LOOPS WITH THE UHF TRANSCEIVER FOR TWO-WAY VOICE COMM ORBITER-TO-GROUND OR ORBITER-TO-EVA CREWMEMBER. LOSS OF ALL CAPABILITY TO USE THE UHF FOR EVA OPS (VIA A/A, A/G1, OR A/G2 LOOP) COULD CAUSE MISSION LOSS. LOSS OF ALL CAPABILITY TO USE S-BAND PM (A/G1, A/G2 LOOPS) AND UHF (ALL LOOPS) WITH GROUND WOULD CAUSE LOSS OF STATE VECTOR UPDATE AND COULD RESULT IN LOSS OF CREW/VEHICLE.

DATE: 2/10/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 2/1R MDAC ID: 25023 ABORT: 3/1R

ITEM: SWITCH, UHF AIR-TO-AIR (AUDIO CENTER)

FAILURE MODE: SHORTED

LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) UHF SYSTEM
- 3) AUDIO CENTER
- 4) SWITCH, A/G1, A/G2

5)

6)

7)

8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	2/1R	TAL:	3/3
ONORBIT:	2/1R	AOA:	3/1R
DEORBIT:	3/1R	ATO:	3/1R
LANDING/SAFING:	•		·

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION: PANEL A1

PART NUMBER: ME452-0102-7201

CAUSES: CONTAMINATION, PIECE-PART FAILURE, VIBRATION

EFFECTS/RATIONALE:

SWITCH PERMITS USE OF AUDIO SYSTEM A/G1, A/G2 LOOPS WITH THE UHF TRANSCEIVER FOR TWO-WAY VOICE COMM ORBITER-TO-GROUND OR ORBITER-TO-EVA CREWMEMBER. LOSS OF ALL CAPABILITY TO USE THE UHF FOR EVA OPS (VIA A/A, A/G1, OR A/G2 LOOP) COULD CAUSE MISSION LOSS. LOSS OF ALL CAPABILITY TO USE S-BAND PM (A/G1, A/G2 LOOPS) AND UHF (ALL LOOPS) WITH GROUND WOULD CAUSE LOSS OF STATE VECTOR UPDATE AND COULD RESULT IN LOSS OF CREW/VEHICLE. NOTE: LOSS OF BOTH NSP'S BECAUSE OF A SINGLE FAILURE (DIODE SHORT IN KU-BAND SIGNAL PROCESSOR) PLUS A SHORT IN THIS SWITCH THAT DISABLES THE UHF TRANSCEIVER COULD CAUSE LOSS OF ABILITY TO UPDATE STATE VECTOR AND RESULT IN LOSS OF CREW/VEHICLE.

REFERENCES: SCHEMATIC VS70-740249

2/10/88 HIGHEST CRITICALITY HDW/FUNC DATE: SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3 ABORT: 3/3 25024 MDAC ID: ITEM: SWITCH, UHF AIR-TO-AIR (AUDIO CENTER) FAILURE MODE: FAILS TO OPEN/CLOSE, PHYSICAL BINDING/JAMMING LEAD ANALYST: A.W. ADDIS SUBSYS LEAD: A.W.ADDIS BREAKDOWN HIERARCHY: 1) COMM & TRACK

- 2) UHF SYSTEM
- 3) AUDIO CENTER
- 4) SWITCH, A/G1, A/G2
- 5) 6)
- 7)

8) 9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC	
PRELAUNCH:	3/3	RTLS:	3/3	
LIFTOFF:	3/3	TAL:	3/3	
ONORBIT:	3/3	AOA:	3/3	
DEORBIT:	3/3	ATO:	3/3	
LANDING/SAFING	: 3/3			

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: PANEL A1

PART NUMBER: ME452-0102-7201

CAUSES: CONTAMINATION, PIECE-PART FAILURE, VIBRATION

EFFECTS/RATIONALE:

SWITCH PERMITS USE OF AUDIO SYSTEM A/G1, A/G2 LOOPS WITH THE UHF TRANSCEIVER FOR TWO-WAY VOICE COMM ORBITER-TO-GROUND OR ORBITER-TO-EVA CREWMEMBER. CONTINUOUS RF OUTPUT CAUSED BY SWITCH JAMMED IN "ON" POSITION WOULD NOT CAUSE MISSION LOSS OR THREATEN CREW/VEHICLE.

REFERENCES: SCHEMATIC VS70-740249

DATE: 2/13/88

HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK

FLIGHT:

3/3

MDAC ID:

27052

ABORT:

3/3

ITEM:

TACAN ID SWITCH

FAILURE MODE: ALL CREDIBLE FAILURES

LEAD ANALYST: W.C. LONG

SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) NAVAIDS
- 3) TACAN
- 4) TACAN ID SWITCH

5)

6)

7)

8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [] B [] C []

LOCATION:

PANEL A5 AND A9 S12, S13

PART NUMBER: ME452-0102-7106, ME4352-0102-7101

CAUSES: CONTAMINATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

TRIPLE REDUNDANT TACAN UNITS, IN THREE SINGLE STRINGS INCLUDING DEDICATED CONTROLS, OPERATE SIMULTANEOUSLY TO PROVIDE SLANT RANGE AND BEARING INFORMATION DURING DEORBIT FROM 160,000 FEET ALT DOWN TO 1500 FEET ALT OR 15 NM FROM LANDING. LOSS OF ALL CAPABILITY TO DETERMINING RANGE PLUS BEARING OR RANGE ONLY VIA LIKE AND UNLIKE REDUNDANCY COULD CAUSE LOSS OF VEHICLE AND CREW. (LIKE REDUNDANCY, TWO OTHER TACAN UNITS, AND UNLIKE-REDUNDANCY FOR DETERMINING RANGE AND BEARING VIA THE GN&C SUBSYSTEM AND STARTING 15 NM FROM LANDING VIA THE MSBLS.) TACAN ID TONE NOT NECESSARY FOR TACAN OPERATION. STATION DETERMINED BY KNOWN APPROXIMITY LOCATION AND CHANNEL NUMBER.

REFERENCES: SYSTEM SHEMATIC VS 70-740179, SSSH 9.2, OMRS NSTS 08171 FILE III, GN&C SYSTEM BRIEF JSC 18863 SECTION 1.

HIGHEST CRITICALITY 2/13/88 HDW/FUNC DATE: FLIGHT: SUBSYSTEM: COMM AND TRACK 3/3 27053 ABORT: 3/3 MDAC ID:

ITEM: TACAN ID SWITCH

FAILURE MODE: ALL CREDIBLE FAILURES

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) NAVAIDS
- TACAN 3)
- TACAN ID SWITCH 4)

5)

6)

7) 8)

91

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: PANEL A5 AND A9 S12, S13

PART NUMBER: ME452-0102-7106, ME4352-0102-7101

CAUSES: CONTAMINATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

TRIPLE REDUNDANT TACAN UNITS, IN THREE SINGLE STRINGS INCLUDING DEDICATED CONTROLS, OPERATE SIMULTANEOUSLY TO PROVIDE SLANT RANGE AND BEARING INFORMATION DURING DEORBIT FROM 160,000 FEET ALT DOWN TO 1500 FEET ALT OR 15 NM FROM LANDING. LOSS OF ALL CAPABILITY TO DETERMINING RANGE PLUS BEARING OR RANGE ONLY VIA LIKE AND UNLIKE REDUNDANCY COULD CAUSE LOSS OF VEHICLE AND CREW. (LIKE REDUNDANCY, TWO OTHER TACAN UNITS, AND UNLIKE-REDUNDANCY FOR DETERMINING RANGE AND BEARING VIA THE GN&C SUBSYSTEM AND STARTING 15 NM FROM LANDING VIA THE MSBLS.) TACAN ID TONE NOT NECESSARY FOR TACAN OPERATION. STATION DETERMINED BY KNOWN APPROXIMITY LOCATION AND CHANNEL NUMBER.

REFERENCES: SYSTEM SHEMATIC VS 70-740179, SSSH 9.2, OMRS NSTS 08171 FILE III, GN&C SYSTEM BRIEF JSC 18863 SECTION 1.

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3 MDAC ID: 27054 ABORT: 3/3

ITEM: TACAN ID SWITCH

FAILURE MODE: ALL CREDIBLE FAILURES

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) NAVAIDS
- 3) TACAN
- 4) TACAN ID SWITCH

5)

6) 7)

8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3	•	·

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: PANEL A5 AND A9 S12, S13

PART NUMBER: ME452-0102-7106, ME4352-0102-7101

CAUSES: CONTAMINATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

TRIPLE REDUNDANT TACAN UNITS, IN THREE SINGLE STRINGS INCLUDING DEDICATED CONTROLS, OPERATE SIMULTANEOUSLY TO PROVIDE SLANT RANGE AND BEARING INFORMATION DURING DEORBIT FROM 160,000 FEET ALT DOWN TO 1500 FEET ALT OR 15 NM FROM LANDING. LOSS OF ALL CAPABILITY TO DETERMINING RANGE PLUS BEARING OR RANGE ONLY VIA LIKE AND UNLIKE REDUNDANCY COULD CAUSE LOSS OF VEHICLE AND CREW. (LIKE REDUNDANCY, TWO OTHER TACAN UNITS, AND UNLIKE-REDUNDANCY FOR DETERMINING RANGE AND BEARING VIA THE GN&C SUBSYSTEM AND STARTING 15 NM FROM LANDING VIA THE MSBLS.) TACAN ID TONE NOT NECESSARY FOR TACAN OPERATION. STATION DETERMINED BY KNOWN APPROXIMITY LOCATION AND CHANNEL NUMBER.

REFERENCES: SYSTEM SHEMATIC VS 70-740179, SSSH 9.2, OMRS NSTS 08171 FILE III, GN&C SYSTEM BRIEF JSC 18863 SECTION 1.

HIGHEST CRITICALITY HDW/FUNC DATE: 2/13/88 SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3

MDAC ID: 27055 ABORT: 3/3

TACAN ID SWITCH ITEM:

FAILURE MODE: ALL CREDIBLE FAILURES

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) NAVAIDS
- 3) TACAN
- 4) TACAN ID SWITCH

5)

6)

7)

8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		in in fate in

REDUNDANCY SCREENS: A [] B [] C [

LOCATION: PANEL A5 AND A9 S12, S13

PART NUMBER: ME452-0102-7106, ME4352-0102-7101

CAUSES: CONTAMINATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

TRIPLE REDUNDANT TACAN UNITS, IN THREE SINGLE STRINGS INCLUDING DEDICATED CONTROLS, OPERATE SIMULTANEOUSLY TO PROVIDE SLANT RANGE AND BEARING INFORMATION DURING DEORBIT FROM 160,000 FEET ALT DOWN TO 1500 FEET ALT OR 15 NM FROM LANDING. LOSS OF ALL CAPABILITY TO DETERMINING RANGE PLUS BEARING OR RANGE ONLY VIA LIKE AND UNLIKE REDUNDANCY COULD CAUSE LOSS OF VEHICLE AND CREW. (LIKE REDUNDANCY, TWO OTHER TACAN UNITS, AND UNLIKE-REDUNDANCY FOR DETERMINING RANGE AND BEARING VIA THE GN&C SUBSYSTEM AND STARTING 15 NM FROM LANDING VIA THE MSBLS.) TACAN ID TONE NOT NECESSARY FOR TACAN OPERATION. STATION DETERMINED BY KNOWN APPROXIMITY LOCATION AND CHANNEL NUMBER.

REFERENCES: SYSTEM SHEMATIC VS 70-740179, SSSH 9.2, OMRS NSTS 08171 FILE III, GN&C SYSTEM BRIEF JSC 18863 SECTION 1.

HIGHEST CRITICALITY HDW/FUNC 2/13/88 DATE: SUBSYSTEM: COMM AND TRACK FLIGHT: 1/1 3/1R ABORT:

27056 MDAC ID:

TACAN

FAILURE MODE: BLANKING PULSE FAILS ON

SUBSYS LEAD: A.W.ADDIS LEAD ANALYST: W.C. LONG

BREAKDOWN HIERARCHY:

- COMM & TRACK 1)
- 2) NAVAIDS
- 3) TACAN

4)

ITEM:

5)

6) 7)

8) 9)

CRITICALITIES

	~*·~			
FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC	
PRELAUNCH:	3/3	RTLS:	3/1R	
LIFTOFF:	3/3	TAL:	3/1R	
ONORBIT:	3/3	AOA:	3/1R	
DEORBIT:	1/1	ATO:	3/1R	
LANDING/SAFING	: 3/3		•	

REDUNDANCY SCREENS: A [] B [] C []

1 UNIT BAY 1, 1 UNIT BAY 2, 1 UNIT BAY 3A LOCATION: PART NUMBER: MC409-0014-0006

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

THE TRIPLE REDUNDANT TACAN UNITS, IN THREE SINGLE STRINGS, OPERATE SIMULTANEOUSLY TO PROVIDE SLANT RANGE AND BEARING INFORMATION DURING DEORBIT FROM 160,000 FEET ALT DOWN TO 1500 FEET ALT OR 15 NM FROM LANDING. LOSS OF ALL CAPABILITY FOR DETERMINING RANGE PLUS BEARING OR RANGE ONLY VIA LIKE AND UNLIKE REDUNDANCY COULD CAUSE LOSS OF VEHICLE AND CREW. REDUNDANCY, TWO OTHER TACAN UNITS, AND UNLIKE-REDUNDANCY FOR DETERMINING RANGE AND BEARING EXISTS VIA THE GN&C SUBSYSTEM AND STARTING 15 NM FROM LANDING VIA THE MSBLS.) FAILURE OF BLANKING PULSE TO TURN OFF WOULD RESULT IN LOSS OF TACAN FUNCTION FOR ALL THREE UNITS. BLANKING PULSE DISABLES ALL TACAN RECEIVERS.

REFERENCES: SYSTEM SHEMATIC VS 70-740179, SSSH 9.2, OMRS NSTS 08171 FILE III, GN&C SYSTEM BRIEF JSC 18863 SECTION 1.

HIGHEST CRITICALITY HDW/FUNC DATE: 2/13/88 COMM AND TRACK FLIGHT: 1/1 SUBSYSTEM: ABORT: 3/1R MDAC ID: 27057 ITEM: TACAN FAILURE MODE: BLANKING PULSE FAILS OFF LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS BREAKDOWN HIERARCHY: 1) COMM & TRACK 2) NAVAIDS

- 3) TACAN
- 4)
- 5)
- 6)
- 7)
- 8)
- 91

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/1R
LIFTOFF:	3/3	TAL:	3/1R
ONORBIT:	3/3	AOA:	3/1R
DEORBIT:	1/1	ATO:	3/1R
LANDING/SAFING:	3/3	,	

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: 1 UNIT BAY 1, 1 UNIT BAY 2, 1 UNIT BAY 3A PART NUMBER: MC409-0014-0006

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

THE TRIPLE REDUNDANT TACAN UNITS, IN THREE SINGLE STRINGS, OPERATE SIMULTANEOUSLY TO PROVIDE SLANT RANGE AND BEARING INFORMATION DURING DEORBIT FROM 160,000 FEET ALT DOWN TO 1500 FEET ALT OR 15 NM FROM LANDING. LOSS OF ALL CAPABILITY FOR DETERMINING RANGE PLUS BEARING OR RANGE ONLY VIA LIKE AND UNLIKE REDUNDANCY COULD CAUSE LOSS OF VEHICLE AND CREW. (LIKE REDUNDANCY, TWO OTHER TACAN UNITS, AND UNLIKE-REDUNDANCY FOR DETERMINING RANGE AND BEARING EXISTS VIA THE GN&C SUBSYSTEM AND STARTING 15 NM FROM LANDING VIA THE MSBLS.) FAILURE OF BLANKING PULSE TO TURN ON WOULD REDUCE SENSITIVITY OF TACAN RECEIVERS REDUCING RANGE SO THAT STATE VECTOR UPDATES MAY NOT BE OBTAINED IMMEDIATELY AFTER BLACKOUT.

REFERENCES: SYSTEM SHEMATIC VS 70-740179, SSSH 9.2, OMRS NSTS 08171 FILE III, GN&C SYSTEM BRIEF JSC 18863 SECTION 1.

REPORT DATE 03/18/88 E-34

HIGHEST CRITICALITY HDW/FUNC DATE: 2/13/88

COMM AND TRACK FLIGHT: 3/1RSUBSYSTEM: 3/1R ABORT: MDAC ID: 27058

TACAN ANTENNA ITEM: FAILURE MODE: LOSS OF OUTPUT

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- NAVAIDS 2)
- 3) TACAN
- 4) ANTENNA
- 5)
- 6)
- 7)
- 8)
- 9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/1R
LIFTOFF:	3/3	TAL:	3/1R
ONORBIT:	3/3	AOA:	3/1R
DEORBIT:	3/1R	ATO:	3/1R
- LANDING/SAFING:	3/3		

B[P] C[P] REDUNDANCY SCREENS: A [1]

UPPER AND LOWER FUSELAGE LOCATION:

PART NUMBER: MC481-0068-0002

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL

SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

THE TRIPLE REDUNDANT TACAN UNITS, IN THREE SINGLE STRINGS, OPERATE SIMULTANEOUSLY TO PROVIDE SLANT RANGE AND BEARING INFORMATION DURING DEORBIT FROM 160,000 FEET ALT DOWN TO 1500 FEET ALT OR 15 NM FROM LANDING. LOSS OF ALL CAPABILITY FOR DETERMINING RANGE PLUS BEARING OR RANGE ONLY VIA LIKE AND UNLIKE REDUNDANCY COULD CAUSE LOSS OF VEHICLE AND CREW. (LIKE REDUNDANCY, TWO OTHER TACAN UNITS, AND UNLIKE-REDUNDANCY FOR DETERMINING RANGE AND BEARING EXISTS VIA THE GN&C SUBSYSTEM AND STARTING 15 NM FROM LANDING VIA THE MSBLS.) LOSS OF ALL CAPABILITY TO PERFORM ANTENNA FUNCTOIN WOULD RESULT IN LOSS OF TACAN FUNCTION.

REFERENCES: SYSTEM SHEMATIC VS 70-740179, SSSH 9.2, OMRS NSTS 08171 FILE III, GN&C SYSTEM BRIEF JSC 18863 SECTION 1.

DATE:

2/13/88

HIGHEST CRITICALITY HDW/FUNC

MDAC ID: 27059

SUBSYSTEM: COMM AND TRACK

FLIGHT: 2/1R ABORT:

2/1R

ITEM:

RADAR ALTIMETER, ANTENNA

FAILURE MODE: LOSS OF OUTPUT

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) NAVAIDS
- 3) RADAR ALTIMETER
- ANTENNA 4)

5)

6)

7)

8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	2/1R
LIFTOFF:	3/3	TAL:	2/1R
ONORBIT:	3/3	AOA:	2/1R
DEORBIT:	2/1R	ATO:	2/1R
LANDING/SAFING:	3/3	Mark Sale	

REDUNDANCY SCREENS: A [1] B [P] C [P]

LOCATION: LOWER FUSELAGE

PART NUMBER: MC481-0072-23300-1

CAUSES: CONTAMINATION, PIECE-PART FAILURE, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION

EFFECTS/RATIONALE:

DUAL REDUNDANT RADAR ALTIMETER UNITS, IN TWO SINGLE STRINGS, OPERATE SIMULTANEOUSLY TO PROVIDE ALTITUDE DURING THE DEORBIT PHASE FROM 5000 FT TO TOUCHDOWN. LOSS OF ALL CAPABILITY FOR DETERMINING ALTITUDE VIA LIKE OR UNLIKE REDUNDANCY COULD CAUSE LOSS OF VEHICLE AND CREW. (LIKE REDUNDANCY EXISTS VIA ANOTHER RADAR ALTIMETER STRING, AND UNLIKE REDUNDANCY FOR DETERMINING ALTITUDE EXITST VIA THE GN&C SUBSYSTEM AND THE BAROMETRIC ALTIMETER). LOSS OF ALL CAPABILITY TO PERFORM ANTENNA FUNCTION WOULD RESULT IN LOSS OF RA CAPABILITY. SECOND FAILURE COULD CAUSE LOSS OF RA FUNCTION.

REFERENCES: SYSTEM SHEMATIC VS 70-740179, SSSH 9.2, OMRS NSTS 08171 FILE III, GN&C SYSTEM BRIEF JSC 18863 SECTION 3.

DATE:

2/13/88

HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK

FLIGHT:

3/1R

MDAC ID:

27060

ABORT:

3/1R

ITEM:

MSBLS RF WAVEGUIDE ASSEMBLY

FAILURE MODE: RF LEAKAGE, SIGNAL LOSS

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- COMM & TRACK 1)
- 2) NAVAIDS
- 3) MSBLS
- WAVEGUIDE ASSY 4)

5)

6)

7)

8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/1R
LIFTOFF:	3/3	TAL:	3/1R
ONORBIT:	3/3	AOA:	3/1R
DEORBIT:	3/1R	ATO:	3/1R
LANDING/SAFING	: 3/3	•	

REDUNDANCY SCREENS: A [1] B [P] C [P]

LOCATION: CABIN PRESSURE BULKHEAD

PART NUMBER: ME413-0038-0034

CAUSES: CONTAMINATION, PIECE-PART FAILURE, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION

EFFECTS/RATIONALE:

TRIPLE REDUNDANT MSBLS SETS, IN THREE SINGLE STRINGS, OPERATE SIMULTANEOUSLY TO PROVIDE SLANT RANGE, AZIMUTH AND ELEVATION ANGLES FROM 15 NM OUT THROUGH LANDING. LOSS OF ALL CAPABILITY FOR DETERMINING PARAMETERS VIA LIKE AND UNLIKE REDUNDANCY COULD CAUSE LOSS OF VEHICLE AND CREW. (LIKE REDUNDANCY, TWO OTHER MSBLS SETS, AND UNLIKE-REDUNDANCY EXISTS VIA THE GN&C SUBSYSTEM, SLANT RANGE AND BEARING DOWN TO 1500 FT VIA THE TACAN, AND ALTITUDE VIA THE RADAR AND BAROMETER ALTIMETERS FROM 5000 FT TO TOUCHDOWN.) THE GPC SOP WILL BLOCK USE OF DATA FROM AN MSBLS SET WHEN RANGE DATA IS LOST. RF LEAKAGE COULD REDUCE EFFECTIVE RANGE OF ONE MSBLS UNIT.

REFERENCES: SYSTEM SHEMATIC VS 70-740179, SSSH 9.2, OMRS NSTS 08171 FILE III, GN&C SYSTEM BRIEF JSC 18863 SECTION 2.

DATE:

2/13/88

HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK

FLIGHT: 2/1R

MDAC ID: 27061

ABORT: 2/1R

ITEM:

MSBLS RF WAVEGUIDE ASSEMBLY

FAILURE MODE: BROKEN WAVEGUIDE

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) NAVAIDS
- 3) MSBLS
- 4) WAVEGUIDE ASSY

5)

6)

7)

8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	2/1R
LIFTOFF:	3/3	TAL:	2/1R
ONORBIT:	2/1R	AOA:	2/1R
DEORBIT:	2/1R	ATO:	2/1R
LANDING/SAFING:	•	* 1 th. 1	***

REDUNDANCY SCREENS: A [1] B [P] C [P]

LOCATION: CABIN PRESSURE BULKHEAD

PART NUMBER: ME413-0038-0034

CAUSES: CONTAMINATION, PIECE-PART FAILURE, TEMPERATURE, LOSS OF

INPUT, MECHANICAL SHOCK, VIBRATION

EFFECTS/RATIONALE:

TRIPLE REDUNDANT MSBLS SETS, IN THREE SINGLE STRINGS, OPERATE SIMULTANEOUSLY TO PROVIDE SLANT RANGE, AZIMUTH AND ELEVATION ANGLES FROM 15 NM OUT THROUGH LANDING. LOSS OF ALL CAPABILITY FOR DETERMINING PARAMETERS VIA LIKE AND UNLIKE REDUNDANCY COULD CAUSE LOSS OF VEHICLE AND CREW. (LIKE REDUNDANCY, TWO OTHER MSBLS SETS, AND UNLIKE-REDUNDANCY EXISTS VIA THE GN&C SUBSYSTEM, SLANT RANGE AND BEARING DOWN TO 1500 FT VIA THE TACAN, AND ALTITUDE VIA THE RADAR AND BAROMETER ALTIMETERS FROM 5000 FT TO TOUCHDOWN.) THE GPC SOP WILL BLOCK USE OF DATA FROM AN MSBLS SET WHEN RANGE DATA IS LOST. RF LEAKAGE COULD REDUCE EFFECTIVE RANGE OF ONE MSBLS UNIT, BUT SECOND BREAK COULD CAUSE LOSS OF PRESSURE IN CABIN ENDANGERING LIFE OR CREW.

REFERENCES: SYSTEM SHEMATIC VS 70-740179, SSSH 9.2, OMRS NSTS 08171 FILE III, GN&C SYSTEM BRIEF JSC 18863 SECTION 2.

REPORT DATE 03/18/88 E-38

HIGHEST CRITICALITY HDW/FUNC DATE: 2/13/88

3/1R SUBSYSTEM: COMM AND TRACK FLIGHT:

ABORT: 3/1R 27062 MDAC ID:

ITEM: MSBLS, ANTENNA FAILURE MODE: LOSS OF OUTPUT

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- COMM & TRACK 1)
- NAVAIDS
- 3) MSBLS
- ANTENNA 4)
- 5)
- 6)
- 7)
- 8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/1R
LIFTOFF:	3/3	TAL:	3/1R
ONORBIT:	3/3	AOA:	3/1R
DEORBIT:	3/1R	ATO:	3/1R
LANDING/SAFING:	3/3		•

REDUNDANCY SCREENS: A [1] B [P] C [P]

LOWER FUSELAGE LOCATION: PART NUMBER: MC481-00657-0001

CAUSES: CONTAMINATION, PIECE-PART FAILURE, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION

EFFECTS/RATIONALE:

TRIPLE REDUNDANT MSBLS SETS, IN THREE SINGLE STRINGS, OPERATE SIMULTANEOUSLY TO PROVIDE SLANT RANGE, AZIMUTH AND ELEVATION ANGLES FROM 15 NM OUT THROUGH LANDING. LOSS OF ALL CAPABILITY FOR DETERMINING PARAMETERS VIA LIKE AND UNLIKE REDUNDANCY COULD CAUSE LOSS OF VEHICLE AND CREW. (LIKE REDUNDANCY, TWO OTHER MSBLS SETS, AND UNLIKE-REDUNDANCY EXISTS VIA THE GN&C SUBSYSTEM, SLANT RANGE AND BEARING DOWN TO 1500 FT VIA THE TACAN, AND ALTITUDE VIA THE RADAR AND BAROMETER ALTIMETERS FROM 5000 FT TO TOUCHDOWN.) THE GPC SOP WILL BLOCK USE OF DATA FROM AN MSBLS SET WHEN RANGE DATA IS LOST. LOSS OF CAPABILITY TO PERFORM ANTENNA FUNCTION WOULD RESULT IN LOSS OF MSBLS FUNCTION.

REFERENCES: SYSTEM SHEMATIC VS 70-740179, SSSH 9.2, OMRS NSTS 08171 FILE III, GN&C SYSTEM BRIEF JSC 18863 SECTION 2.

HIGHEST CRITICALITY HDW/FUNC 2/18/88 DATE:

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3 ABORT: 3/3 MDAC ID: 27063

RA PWR SWITCH ITEM:

FAILURE MODE: SHORTED CONTACTS, JAMS ON

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) NAVAIDS
- 3) RADAR ALTIMETER
- 4) RA PWR SWITCH

5)

6)

7)

8) 9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3	•	

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: PANEL 08

PART NUMBER: V070-730296 S4, S5

CAUSES: CONTAMINATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

DUAL REDUNDANT RADAR ALTIMETER UNITS, IN TWO SINGLE STRINGS, INCLUDING DEDICATED CONTROLS, OPERATE SIMULTANEOUSLY TO PROVIDE ALTITUDE DURING THE DEORBIT PHASE FROM 5000 FT TO TOUCHDOWN. LOSS OF ALL CAPABILITY FOR DETERMINING ALTITUDE VIA LIKE OR UNLIKE REDUNDANCY COULD CAUSE LOSS OF VEHICLE AND CREW. (LIKE REDUNDANCY EXISTS VIA ANOTHER RADAR ALTIMETER UNIT, AND UNLIKE REDUNDANCY FOR DETERMINING ALTITUDE EXISTS VIA THEGN&C SUBSYSTEM AND THE BAROMETRIC ALTIMETER.) SHORTED CONTACTS AND JAMMING ON WOULD ALLOW NORMAL OPERATION. CIRCUIT BREAKER COULD PROVIDE FOR MANUAL ON/OFF CONTROL.

_

REFERENCES: SYSTEM SHEMATIC VS70-740159, SSSH 9.3, OMRS NSTS 08171 FILE III, GN&C SYSTEM BRIEF JSC 18863 SECTION 3.

DATE: 2/18/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3 MDAC ID: 27064 ABORT: 3/3

ITEM: MLS POWER SWITCH FAILURE MODE: SHORTED CONTACTS

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) NAVAIDS
- 3) MSBLS
- 4) MLS PWR SWITCH

5)

6)

7)

8) 9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING	3/3		

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: PANEL 08
PART NUMBER: S8, S9, S10

CAUSES: CONTAMINATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

TRIPLE REDUNDANT MSBLS SETS, IN THREE SINGLE STRINGS INCLUDING DEDICATED CONTROLS, OPERATE SIMULTANEOUSLY TO PROVIDE SLANT RANGE, AZIMUTH AND ELEVATION ANGLES FROM 15 NM OUT THROUGH LANDING. LOSS OF ALL CAPABILITY FOR DETERMINING PARAMETERS VIA LIKE AND UNLIKE REDUNDANCY COULD CAUSE LOSS OF VEHICLE AND CREW. (LIKE REDUNDANCY, TWO OTHER MSBLS STRINGS, AND UNLIKE VIA THE GN&C SUBSYSTEM, SLANT RANGE AND BEARING VIA THE TACAN DOWN TO 1500 FT AND ALTITUDE VIA THE RADAR AND BAROMETRIC ALTIMETERS FROM 5000 FT TO TOUCHDOWN.) SHORTED OCNTACTS WOULD APPEAR AS A CLOSED SWITCH ALLOWING NORMAL OPERATION. CIRCUIT BREAKER CAN BE USED FOR MANUAL ON/OFF CONTROL.

REFERENCES: SYSTEM SHEMATIC VS 70-740569, SSSH 9.4, OMRS NSTS 08171 FILE III, GN&C SYSTEM BRIEF JSC 18863 SECTION 2.

HIGHEST CRITICALITY HDW/FUNC 2/13/88 SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3 ABORT: 3/3 MDAC ID: 27507 RADAR ALTIMETER, RESISTOR R1 ITEM:

FAILURE MODE: OPEN (ELECTRICAL)

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) NAVAIDS
- 3) RADAR ALTIMETER
- 4) RESISTOR R1

5)

6)

7)

8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		**

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: 1 UNIT BAY 1, 1 UNIT IN BAY 2A4R1

PART NUMBER: RWR8051211FR

CAUSES: CONTAMINATION, PIECE-PART FAILURE, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION

EFFECTS/RATIONALE:

DUAL REDUNDANT RADAR ALTIMETER UNITS, IN TWO SINGLE STRINGS, OPERATE SIMULTANEOUSLY TO PROVIDE ALTITUDE DURING THE DEORBIT PHASE FROM 5000 FT TO TOUCHDOWN. LOSS OF ALL CAPABILITY FOR DETERMINING ALTITUDE VIA LIKE OR UNLIKE REDUNDANCY COULD CAUSE LOSS OF VEHICLE AND CREW. (LIKE REDUNDANCY EXISTS VIA ANOTHER RADAR ALTIMETER UNIT, AND UNLIKE REDUNDANCY FOR DETERMINING ALTITUDE EXISTS VIA THE GN&C SUBSYSTEM AND THE BAROMETRIC ALTIMETER.) RESISTOR PROVIDES SCAN CURRENT LIMITING. OPEN WOULD CAUSE LOSS OF SCAN WITH NO EFFECT ON SYSTEM OFFRATION.

REFERENCES: SYSTEM SHEMATIC VS70-740159, SSSH 9.3, OMRS NSTS 08171 FILE III, GN&C SYSTEM BRIEF JSC 18863 SECTION 3.

DATE: 3/16/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3 MDAC ID: 28377 ABORT: 3/3

ITEM: PAN AND TILT UNIT LIMIT SWITCH

FAILURE MODE: FAILS OPEN

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) CCTV
- 3) PAN AND TILT UNIT (PTU)
- 4) LIMIT SWITCH
- 5)
- 6)
- 7)
- 8) 9)

CRITICALITIES

FLIGHT PHASE H	IDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3	•	•

REDUNDANCY SCREENS: A [1] B [P] C [P]

LOCATION: PAYLOAD BAY

PART NUMBER: 2294822

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP.) PTU PROVIDES TVC "A" POINTING CAPABILITY. LIMIT SWITCH NORMALLY OPEN, BUT MAY DAMAGE MOTOR WHEN MECHANICAL STOP IS ENCOUNTERED, SHOULD BE EASILY DETECTED WITHOUT INCIDENT.

REFERENCES: FLT RULES, SHUTTLE FLT OPS MANUAL JSC-12770, SSSH 16.1, .12, .13, .24, SYS SCHEMATIC VS70-740189, OMRSD NSTS 08171 INDEPENDENT ORBITER ASSESSMENT

ORBITER SUBSYSTEM ANALYSIS WORKSHEET

HIGHEST CRITICALITY HDW/FUNC DATE: 3/16/88

SUBSYSTEM: COMM AND TRACK 2/1R FLIGHT: MDAC ID: 28378 ABORT: 3/3

ITEM: PAN AND TILT UNIT LIMIT SWITCH

FAILURE MODE: FAILS SHORTED

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) CCTV
- 3) PAN AND TILT UNIT (PTU)
- 4) LIMIT SWITCH
- 5)
- 6)
- 7)
- 8)
- 9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	2/1R	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		•

REDUNDANCY SCREENS: A [1] B [P] C [P]

FWD PAYLOAD BAY PORT POSITION (TVC A) LOCATION:

PART NUMBER: 2294822

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP.) PTU PROVIDES TVC "A" POINTING CAPABILITY. SHORTED SWITCH RESULTS IN LOSS OF TARGET TRACK CAPABILITY AND EFFECTIVE CCTV COVERAGE RESULTING IN POSSIBLE LOSS OF VEHICLE AND CREW.

REFERENCES: FLT RULES, SHUTTLE FLT OPS MANUAL JSC-12770, SSSH 16.1, .12, .13, .24, SYS SCHEMATIC VS70-740189, OMRSD NSTS 08171 INDEPENDENT ORBITER ASSESSMENT

ORBITER SUBSYSTEM ANALYSIS WORKSHEET

HIGHEST CRITICALITY HDW/FUNC 3/16/88 DATE: FLIGHT: 3/3 SUBSYSTEM: COMM AND TRACK

3/3 ABORT: MDAC ID: 28379

PAN AND TILT UNIT LIMIT SWITCH ITEM:

FAILURE MODE: FAILS OPEN

SUBSYS LEAD: A.W.ADDIS LEAD ANALYST: W.C. LONG

BREAKDOWN HIERARCHY:

- COMM & TRACK
- CCTV 2)
- PAN AND TILT UNIT (PTU) 3)
- 4) LIMIT SWITCH
- 5)
- 6)
- 7)
- 8) 9)

CRITICALITIES

	V-1			
FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC	
PRELAUNCH:	3/3	RTLS:	3/3	
LIFTOFF:	3/3	TAL:	3/3	
ONORBIT:	3/3	AOA:	3/3	
DEORBIT:	3/3	ATO:	3/3	
LANDING/SAFING	: 3/3			

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: RMS ARM PART NUMBER: 2294822

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP.) PTU PROVIDES TVC "A" POINTING CAPABILITY. LIMIT SWITCH NORMALLY OPEN, BUT MAY DAMAGE MOTOR WHEN MECHANICAL STOP IS ENCOUNTERED, SHOULD BE EASILY DETECTED WITHOUT INCIDENT.

REFERENCES: FLT RULES, SHUTTLE FLT OPS MANUAL JSC-12770, SSSH 16.1, .12, .13, .24, SYS SCHEMATIC VS70-740189, OMRSD NSTS 08171 INDEPENDENT ORBITER ASSESSMENT

ORBITER SUBSYSTEM ANALYSIS WORKSHEET

REPORT DATE 03/18/88

3/16/88 HIGHEST CRITICALITY HDW/FUNC

DATE: 3/16/88 SUBSYSTEM: COMM AND TRACK FLIGHT: 3/2R ABORT: MDAC ID: 28380 3/3

PAN AND TILT UNIT LIMIT SWITCH ITEM:

FAILURE MODE: SHORTED

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- CCTV 2)
- PAN AND TILT UNIT (PTU) 3)
- LIMIT SWITCH 4)

5)

6)

7)

8) 9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/2R	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		-

REDUNDANCY SCREENS: A [1] B [P] C [P]

LOCATION: RMS ARM PART NUMBER: 2294822

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL

SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP AND RMS WRIST TVC TO VIEW RMS ACTIVITY). PTU PROVIDES RMS ELBOW TVC POINTING CAPABILITY. LIMIT SWITCH SHORT RESULTS IN LOSS OF TARGET TRACK CAPABILITY AND EFFECTIVE CCTV COVERAGE RESULTING IN POSSIBLE LOSS OF MISSION.

REFERENCES: FLT RULES, SHUTTLE FLT OPS MANUAL JSC-12770, SSSH 16.1, .12, .13, .24, SYS SCHEMATIC VS70-740189, OMRSD NSTS 08171 INDEPENDENT ORBITER ASSESSMENT

ORBITER SUBSYSTEM ANALYSIS WORKSHEET

HIGHEST CRITICALITY HDW/FUNC DATE: 3/16/88

3/3 SUBSYSTEM: COMM AND TRACK FLIGHT: ABORT: 3/3 28381 MDAC ID:

MONOCHROME LENS ASSEMBLY IRIS LIMIT SWITCH ITEM:

FAILURE MODE: FAILS OPEN

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- COMM & TRACK 1)
- 2) CCTV
- MONOCHROME LENS ASSEMBLY (MLA) 3)
- 4) IRIS LIMIT SWITCH

5)

6)

7)

8)

9)

CRITICALITIES

	V1/2 2 V1			
FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC	
PRELAUNCH:	3/3	RTLS:	3/3	
LIFTOFF:	3/3	TAL:	3/3	
ONORBIT:	3/3	AOA:	3/3	
DEORBIT:	3/3	ATO:	3/3	
LANDING/SAFING:	3/3			

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: CABIN PART NUMBER: 2294820

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL

SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP.) OPEN IRIS LIMIT SWITCH WOULD ALLOW FOR NORMAL OPERATION. NO CAUSE FOR LOSS OF MISSION.

HIGHEST CRITICALITY HDW/FUNC 3/16/88 DATE: SUBSYSTEM: COMM AND TRACK 3/3 FLIGHT:

3/3 MDAC ID: 28382 ABORT:

MONOCHROME LENS ASSEMBLY IRIS LIMIT SWITCH ITEM:

FAILURE MODE: FAILS SHORTED

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- COMM & TRACK 1)
- 2) CCTV
- MONOCHROME LENS ASSEMBLY (MLA) 3)
- IRIS LIMIT SWITCH 4)

5)

6)

7)

8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: CABIN PART NUMBER: 2294820

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL

SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP.) LIMIT SWITCH SHORT WOULD CAUSE LOSS OF TV CAMERA IRIS, CONTROL RESULTING IN LOSS OF EFFECTIVE CCTV CABIN FLT DECK COVERAGE. NO CAUSE FOR LOSS OF MISSION.

DATE: 3/16/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3 MDAC ID: 28383 ABORT: 3/3

ITEM: MONOCHROME LENS ASSEMBLY IRIS LIMIT SWITCH

FAILURE MODE: FAILS OPEN

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) CCTV
- 3) MONOCHROME LENS ASSEMBLY (MLA)
- 4) IRIS LIMIT SWITCH

5)

6)

7)

8) 9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	,		•

REDUNDANCY SCREENS: A [] B [] C [

LOCATION: PAYLOAD BAY

PART NUMBER: 2294820

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP.) OPEN IRIS LIMIT SWITCH WOULD ALLOW FOR NORMAL OPERATION. NO CAUSE FOR LOSS OF MISSION.

HIGHEST CRITICALITY HDW/FUNC DATE: 3/16/88

SUBSYSTEM: COMM AND TRACK FLIGHT: 2/1R 3/3 MDAC ID: 28384 ABORT:

MONOCHROME LENS ASSEMBLY IRIS LIMIT SWITCH ITEM:

FAILURE MODE: FAILS SHORTED

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- CCTV 2)
- 3) MONOCHROME LENS ASSEMBLY (MLA)
- IRIS LIMIT SWITCH 4)

5)

6)

7)

8)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	2/1R	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		•

ANDING/SAFING: 3/3

REDUNDANCY SCREENS: A [1] B [P] C [P]

LOCATION: PAYLOAD BAY PART NUMBER: 2294820

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

The second secon

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP.) IRIS LIMIT SWITCH SHORT WOULD CAUSE LOSS OF TV CAMERA IRIS, CONTROL RESULTING IN LOSS OF EFFECTIVE CCTV COVERAGE AND POSSIBLE LOSS OF VEHICLE AND CREW.

DATE: 3/16/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3 MDAC ID: 28385 ABORT: 3/3

ITEM: MONOCHROME LENS ASSEMBLY IRIS LIMIT SWITCH

FAILURE MODE: FAILS OPEN

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) CCTV
- 3) MONOCHROME LENS ASSEMBLY (MLA)
- 4) IRIS LIMIT SWITCH
- 5)
- 6)
- 7)
- 8) 9)

CRITICALITIES

V2/2 2 2 V1-2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			
FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3 .
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: P/L BAY RMS WRIST TVC

PART NUMBER: 2294820

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP.) OPEN IRIS LIMIT SWITCH WOULD ALLOW FOR NORMAL OPERATION. NO CAUSE FOR LOSS OF MISSION.

DATE:

3/16/88

HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK

FLIGHT:

3/2R

MDAC ID:

28386

ABORT:

3/3

ITEM:

MONOCHROME LENS ASSEMBLY IRIS LIMIT SWITCH

FAILURE MODE: FAILS SHORTED

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- COMM & TRACK 1)
- 2) CCTV
- MONOCHROME LENS ASSEMBLY (MLA) 3)

IRIS LIMIT SWITCH 4)

5)

6)

7)

8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/2R	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3	* a	

REDUNDANCY SCREENS: A [1] B [P] C [P]

LOCATION: P/L BAY RMS WRIST TVC

PART NUMBER: 2294820

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP AND ELBOW TVC FOR VIEWING RMS ACTIVITY.) IRIS LIMIT SWITCH SHORT WOULD CAUSE LOSS OF TV CAMERA IRIS CONTROL RESULTING IN LOSS OF EFFECTIVE CCTV COVERAGE AND POSSIBLE LOSS OF MISSION.

HIGHEST CRITICALITY HDW/FUNC 3/16/88 DATE: 3/3 SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3

28387 ABORT: MDAC ID:

MONOCHROME LENS ASSEMBLY IRIS LIMIT SWITCH ITEM:

FAILURE MODE: FAILS OPEN

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) CCTV
- 3) MONOCHROME LENS ASSEMBLY (MLA)
- IRIS LIMIT SWITCH 4)

5)

6)

7)

8) 9)

CRITTCALITTES

	CICLITORIDITATIO		
FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING	: 3/3		

REDUNDANCY SCREENS: A [] B [] C []

P/L BAY RMS ELBOW TVC LOCATION: PART NUMBER: 2294820

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP.) OPEN IRIS LIMIT SWITCH WOULD ALLOW FOR NORMAL OPERATION. NO CAUSE FOR LOSS OF MISSION.

DATE:

3/16/88

HIGHEST CRITICALITY

HDW/FUNC

SUBSYSTEM: COMM AND TRACK

FLIGHT:

3/2R

MDAC ID:

28388

ABORT:

3/3

ITEM:

MONOCHROME LENS ASSEMBLY IRIS LIMIT SWITCH

FAILURE MODE: FAILS SHORTED

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) CCTV
- 3) MONOCHROME LENS ASSEMBLY (MLA)
- IRIS LIMIT SWITCH 4)

5)

6)

7)

8) 9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/2R	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	: 3/3		•

REDUNDANCY SCREENS: A [1] B [P] C [P]

LOCATION: P/L BAY RMS ELBOW TVC

PART NUMBER: 2294820

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL

SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP AND WRIST TVC FOR VIEWING RMS ACTIVITY.) IRIS LIMIT SWITCH SHORT WOULD CAUSE LOSS OF TV CAMERA IRIS CONTROL RESULTING IN LOSS OF EFFECTIVE CCTV COVERAGE AND POSSIBLE LOSS OF MISSION.

DATE: 3/16/88 HIGHEST CRITICALITY HDW/FUNC SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3

MDAC ID: 28389

ABORT: 3/3

ITEM:

WIDE ANGLE LENS ASSEMBLY IRIS, FOCUS, ZOOM LIMIT

SWITCH

FAILURE MODE: FAILS OPEN

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) CCTV
- 3) WIDE ANGLE LENS ASSEMBLY (WLA)
- 4) IRIS, FOCUS, ZOOM LIMIT SWITCH

5)

6)

7) 8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING	: 3/3		·

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: PAYLOAD BAY

PART NUMBER: 2307088

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL

SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP). OPEN LIMIT SWITCH WOULD NOT BE BASIS FOR LOSS OF MISSION.

DATE: 3/16/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 2/1R MDAC ID: 28390 ABORT: 3/3

ITEM: WIDE ANGLE LENS ASSEMBLY IRIS, FOCUS, ZOOM LIMIT

SWITCH

FAILURE MODE: FAILS SHORTED

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) CCTV
- 3) WIDE ANGLE LENS ASSEMBLY (WLA)
- 4) IRIS, FOCUS, ZOOM LIMIT SWITCH

5)

6)

7) 8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC	
PRELAUNCH:	3/3	RTLS:	3/3	
LIFTOFF:	3/3	TAL:	3/3	
ONORBIT:	2/1R	AOA:	3/3	
DEORBIT:	3/3	ATO:	3/3	
LANDING/SAFING:	3/3			

REDUNDANCY SCREENS: A [1] B [P] C [P]

LOCATION: PAYLOAD BAY

PART NUMBER: 2307088

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP). IROS FOCUS, ZOOM LIMIT SWITCH SHORT WOULD CAUSE LOSS OF EITHER IRIS. FOCUS OR ZOOM CONTROL RESULTING IN LOSS OF EFFECTIVE CCTV COVERAGE AND POSSIBLE LOSS OF VEHICLE AND CREW.

DATE: 3/16/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3 MDAC ID: 28391 ABORT: 3/3

ITEM: WIDE ANGLE LENS ASSEMBLY IRIS, FOCUS, ZOOM LIMIT

SWITCH

FAILURE MODE: FAILS OPEN

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) CCTV
- 3) WIDE ANGLE LENS ASSEMBLY (WLA)
- 4) IRIS, FOCUS, ZOOM LIMIT SWITCH

5)

6)

7) 8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		•

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: CABIN PART NUMBER: 2307088

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL

SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP.) OPEN LIMIT SWITCH WOULD NOT BE BAISS FOR LOSS OF MISSION.

HIGHEST CRITICALITY HDW/FUNC 3/16/88 DATE: SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3 ABORT: 3/3

MDAC ID: 28392

WIDE ANGLE LENS ASSEMBLY IRIS, FOCUS, ZOOM LIMIT

ITEM: SWITCH

FAILURE MODE: FAILS SHORTED

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- CCTV 2)
- WIDE ANGLE LENS ASSEMBLY (WLA) 3)
- IRIS, FOCUS, ZOOM LIMIT SWITCH 4)

5) 6)

7)

8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC	
PRELAUNCH:	3/3	RTLS:	3/3	
LIFTOFF:	3/3	TAL:	3/3	
ONORBIT:	3/3	AOA:	3/3	
DEORBIT:	3/3	ATO:	3/3	
LANDING/SAFING:	3/3		•	

REDUNDANCY SCREENS: A [] B [] C []

LOCATION:

CABIN

PART NUMBER: 2307088

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP.) SHORTED CABIN LIMIT SWITCH WOULD NOT BE BASIS FOR LOSS OF MISSION.

DATE: 3/16/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3 MDAC ID: 28393 ABORT: 3/3

ITEM: WIDE ANGLE LENS ASSEMBLY IRIS, FOCUS, ZOOM LIMIT

SWITCH

FAILURE MODE: FAILS OPEN

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) CCTV
- 3) WIDE ANGLE LENS ASSEMBLY (WLA)
- 4) IRIS, FOCUS, ZOOM LIMIT SWITCH

5)

6)

7)

8) 9)

CRITICALITIES

	ONT TITLE			
FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC	
PRELAUNCH:	3/3	RTLS:	3/3	
LIFTOFF:	3/3	TAL:	3/3	
ONORBIT:	3/3	AOA:	3/3	
DEORBIT:	3/3	ATO:	3/3	
LANDING/SAFING	3/3			

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: RMS ELBOW TVC

PART NUMBER: 2307088

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP.) OPEN LIMIT SWITCH WOULD NOT BE BAISS FOR LOSS OF MISSION.

DATE:

3/16/88

HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK

FLIGHT:

3/2R

MDAC ID: 28394

ABORT:

3/3

ITEM:

WIDE ANGLE LENS ASSEMBLY IRIS, FOCUS, ZOOM LIMIT

SWITCH

FAILURE MODE: FAILS SHORTED

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- COMM & TRACK
- CCTV 2)
- WIDE ANGLE LENS ASSEMBLY (WLA) 3)
- 4) IRIS, FOCUS, ZOOM LIMIT SWITCH

5)

6)

7) 8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/2R	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		•

REDUNDANCY SCREENS: A [1] B [P] C [P]

LOCATION:

RMS ELBOW TVC

PART NUMBER: 2307088

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP AND WRIST TVC FOR VIEWING RMS ACTIVITY.) IRIS LIMIT SWITCH SHORT WOULD CAUSE LOSS OF TV CAMERA IRIS CONTROL RESULTING IN LOSS OF EFFECTIVE CCTV COVERAGE AND POSSIBLE LOSS OF MISSION.

REFERENCES: FLT RULES, SHUTTLE FLT OPS MANUAL JSC-12770, SSSH 16.1, .12, .13, .24, SYS SCHEMATIC VS70-740189, OMRSD NSTS 08171

REPORT DATE 03/18/88 E-60

DATE: 3/16/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3 MDAC ID: 28395 ABORT: 3/3

ITEM:

WIDE ANGLE LENS ASSEMBLY IRIS, FOCUS, ZOOM LIMIT

SWITCH

FAILURE MODE: FALS OPEN

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) CCTV
- 3) WIDE ANGLE LENS ASSEMBLY (WLA)
- 4) IRIS, FOCUS, ZOOM LIMIT SWITCH

5)

6)

7)

8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING	: 3/3	•	•

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: RMS WRIST TVC

PART NUMBER: 2307088

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL

SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP.) OPEN LIMIT SWITCH WOULD NOT BE BASIS FOR LOSS OF MISSION.

DATE:

3/16/88

HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: MDAC ID:

COMM AND TRACK 28396

FLIGHT: ABORT:

3/2R 3/3

ITEM:

WIDE ANGLE LENS ASSEMBLY IRIS, FOCUS, ZOOM LIMIT

SWITCH

FAILURE MODE: FAILS SHORTED

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- CCTV 2)
- WIDE ANGLE LENS ASSEMBLY (WLA) 3)
- 4) IRIS, FOCUS, ZOOM LIMIT SWITCH

5)

6)

7)

8)

9)

CRITICALITIES

HDW/FUNC	ABORT	HDW/FUNC	
3/3	RTLS:	3/3	
3/3	TAL:	3/3	
3/2R	AOA:	3/3	
3/3	ATO:	3/3	
3/3		-	
	3/3 3/3 3/2R 3/3	3/3 RTLS: 3/3 TAL: 3/2R AOA: 3/3 ATO:	

REDUNDANCY SCREENS: A [1] B [P] C [P]

LOCATION:

RMS WRIST TVC

PART NUMBER: 2307088

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS. AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP.) SHORTED LIMIT SWITCH WOULD CAUSE LOSS OF TVC IRIS, FOCUS, OR ZOOM CONTROL RESULTING IN LOSS OF EFFECTIVE CCTV COVERAGE AND POSSIBLE LOSS OF MISSION.

REFERENCES: FLT RULES, SHUTTLE FLT OPS MANUAL JSC-12770, SSSH 16.1, .12, .13, .24, SYS SCHEMATIC VS70-740189, OMRSD NSTS 08171

REPORT DATE 03/18/88

INDEPENDENT ORBITER ASSESSMENT ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 3/16/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3 MDAC ID: 28397 ABORT: 3/3

ITEM: COLOR LENS ASSEMBLY IRIS LIMIT SWITCH

FAILURE MODE: FAILS OPEN

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) CCTV
- 3) COLOR LENS ASSEMBLY (CLA)
- 4) IRIS LIMIT SWITCH
- 5)
- 6)
- 7)
- 8) 9)

CRITICALITIES

FLIGHT PHASE H	IDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		·

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: CABIN TVC PART NUMBER: 2294821

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:
CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT
ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND
STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR,
RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS
VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS
STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND
CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND
COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND
STA/KEEP.) OPEN LIMIT SWITCH ALLOWS FOR NORMAL OPERATION. NOT
CAUSE FOR LOSS OF MISSION.

REFERENCES: FLT RULES, SHUTTLE FLT OPS MANUAL JSC-12770, SSSH 16.1, .12, .13, .24, SYS SCHEMATIC VS70-740189, OMRSD NSTS 08171

INDEPENDENT ORBITER ASSESSMENT ORBITER SUBSYSTEM ANALYSIS WORKSHEET

HIGHEST CRITICALITY HDW/FUNC 3/16/88 DATE: SUBSYSTEM: COMM AND TRACK 3/3 FLIGHT: 3/3 28398 ABORT: MDAC ID: COLOR LENS ASSEMBLY IRIS LIMIT SWITCH ITEM: FAILURE MODE: FAILS SHORTED LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- CCTV 2)
- COLOR LENS ASSEMBLY (CLA) 3)
- 4) IRIS LIMIT SWITCH

5)

6)

7) 8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING	: 3/3		

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: CABIN TVC PART NUMBER: 2294821

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP.) SHORTED IRIS LIMIT SWITCH WOULD CAUSE LOSS OF TV CAMERA IRIS CONTROL RESULTING IN LOSS OF EFFECTIVE CCTV COVERAGE OF CABIN. NOT CAUSE FOR LOSS OF MISSION.

REFERENCES: FLT RULES, SHUTTLE FLT OPS MANUAL JSC-12770, SSSH 16.1, .12, .13, .24, SYS SCHEMATIC VS70-740189, OMRSD NSTS 08171

INDEPENDENT ORBITER ASSESSMENT ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 3/16/88 HIGHEST CRITICALITY HDW/FUNC SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3 MDAC ID: 28399 ABORT: 3/3

ITEM:

COLOR LENS ASSEMBLY IRIS LIMIT SWITCH

FAILURE MODE: FAILS OPEN

LEAD ANALYST: W.C. LONG . SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) CCTV
- 3) COLOR LENS ASSEMBLY (CLA)
- 4) IRIS LIMIT SWITCH
- 5)
- 6)
- 7)
- 8)
- 9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	, AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: P/L BAY PART NUMBER: 2294821

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL

SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP.) OPEN IRIS LIMIT SWITCH ALLOWS FOR NORMAL OPERATION.

REFERENCES: FLT RULES, SHUTTLE FLT OPS MANUAL JSC-12770, SSSH 16.1, .12, .13, .24, SYS SCHEMATIC VS70-740189, OMRSD NSTS 08171

INDEPENDENT ORBITER ASSESSMENT ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE:

3/16/88

HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM:

COMM AND TRACK

FLIGHT:

2/1R

MDAC ID:

28400

ABORT:

3/3

ITEM:

COLOR LENS ASSEMBLY IRIS LIMIT SWITCH

FAILURE MODE: FAILS SHORTED

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- COMM & TRACK 1)
- 2) CCTV
- 3) COLOR LENS ASSEMBLY (CLA)
- IRIS LIMIT SWITCH 4)

5)

6)

7)

8) 9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	2/1R	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3	the second	

REDUNDANCY SCREENS: A [1] B [P] C [P]

LOCATION: P/L BAY

PART NUMBER: 2294821

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL

SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP.) SHORTED IRIS LIMIT SWITCH WOULD CAUSE LOSS OF TV CAMERA IRIS CONTROL RESULTING IN LOSS OF EFFECTIVE CCTV COVERAGE AND POSSIBLE LOSS OF VEHICLE AND CREW.

REFERENCES: FLT RULES, SHUTTLE FLT OPS MANUAL JSC-12770, SSSH 16.1, .12, .13, .24, SYS SCHEMATIC VS70-740189, OMRSD NSTS 08171

INDEPENDENT ORBITER ASSESSMENT ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 3/16/88 HIGHEST CRITICALITY HDW/FUNC SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3

MDAC ID: 28401 ABORT: 3/3

ITEM: COLOR LENS ASSEMBLY IRIS LIMIT SWITCH

FAILURE MODE: FAILS OPEN

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) CCTV
- 3) COLOR LENS ASSEMBLY (CLA)
- 4) IRIS LIMIT SWITCH

5)

6)

7)

8)

9)

CRITICALITIES

	V-1		
FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING	: 3/3		•

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: P/L BAY RMS WRIST TVC

PART NUMBER: 2294821

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL

SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP AND ELBOW TVC FOR VIEWING RMS ACTIVITY.) OPEN IRIS LIMIT SWITCH ALLOWS FOR NORMAL OPERATION.

REFERENCES: FLT RULES, SHUTTLE FLT OPS MANUAL JSC-12770, SSSH 16.1, .12, .13, .24, SYS SCHEMATIC VS70-740189, OMRSD NSTS 08171

INDEPENDENT ORBITER ASSESSMENT ORBITER SUBSYSTEM ANALYSIS WORKSHEET

HIGHEST CRITICALITY HDW/FUNC DATE: 3/16/88

FLIGHT: SUBSYSTEM: COMM AND TRACK 3/2R MDAC ID: 28402 ABORT: 3/3

COLOR LENS ASSEMBLY IRIS LIMIT SWITCH ITEM:

FAILURE MODE: FAILS SHORTED

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

1) COMM & TRACK

CCTV 2)

COLOR LENS ASSEMBLY (CLA) 3)

4) IRIS LIMIT SWITCH

5)

6) 7)

8) 9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/2R	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3 `
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [1] B [P] C [P]

LOCATION: P/L BAY RMS WRIST TVC PART NUMBER: 2294821

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL

SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP AND ELBOW TVC FOR VIEWING RMS ACTIVITY.) SHORTED IRIS LIMIT SWITCH WOULD CAUSE LOSS OF TV CAMERA IRIS CONTROL RESULTING IN LOSS OF EFFECTIVE CCTV COVERAGE AND POSSIBLE LOSS OF MISSION.

REFERENCES: FLT RULES, SHUTTLE FLT OPS MANUAL JSC-12770, SSSH 16.1, .12, .13, .24, SYS SCHEMATIC VS70-740189, OMRSD NSTS 08171

INDEPENDENT ORBITER ASSESSMENT ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 3/16/88 HIGHEST CRITICALITY HDW/FUNC

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/3 MDAC ID: 28403 ABORT: 3/3

ITEM: COLOR LENS ASSEMBLY IRIS LIMIT SWITCH

FAILURE MODE: FAILS OPEN

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- 2) CCTV
- 3) COLOR LENS ASSEMBLY (CLA)
- 4) IRIS LIMIT SWITCH
- 5)
- 6)
- 7)
- 8) 9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		*

REDUNDANCY SCREENS: A [] B [] C []

LOCATION: P/L BAY RMS ELBOW TVC

PART NUMBER: 2294821

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP AND ELBOW TVC FOR VIEWING RMS ACTIVITY.) OPEN IRIS LIMIT SWITCH ALLOWS FOR NORMAL OPERATION.

REFERENCES: FLT RULES, SHUTTLE FLT OPS MANUAL JSC-12770, SSSH 16.1, .12, .13, .24, SYS SCHEMATIC VS70-740189, OMRSD NSTS 08171

INDEPENDENT ORBITER ASSESSMENT ORBITER SUBSYSTEM ANALYSIS WORKSHEET

3/16/88 HIGHEST CRITICALITY HDW/FUNC DATE:

SUBSYSTEM: COMM AND TRACK FLIGHT: 3/2R 3/3 ABORT: 28404 MDAC ID:

COLOR LENS ASSEMBLY IRIS LIMIT SWITCH ITEM:

FAILURE MODE: FAILS SHORTED

LEAD ANALYST: W.C. LONG SUBSYS LEAD: A.W.ADDIS

BREAKDOWN HIERARCHY:

- 1) COMM & TRACK
- CCTV 2)
- 3) COLOR LENS ASSEMBLY (CLA)
- 4) IRIS LIMIT SWITCH

5)

6)

7) 8)

9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/2R	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		*

REDUNDANCY SCREENS: A [1] B [P] C [P]

LOCATION: P/L BAY RMS ELBOW TVC

PART NUMBER: 2294821

CAUSES: CONTAMINATION, TEMPERATURE, LOSS OF INPUT, MECHANICAL SHOCK, VIBRATION, PIECE-PART FAILURE

EFFECTS/RATIONALE:

CCTV SYS PROVIDES ESSENTIAL VISUAL FEEDBACK TO DOCUMENT ONORBIT ACTIVITIES, SUPPORT MISSION EXP OPS, ASSIST IN RENDEZ AND STA/KEEP OPS, INSPECT/MONITOR P/L BAY DOOR LATCHES, ORB EXTERIOR, RMS, AND ATTACHED P/L. LOSS OF ALL CAP TO OBTAIN CCTV FUNCTIONS VIA LIKE AND UNLIKE REDUND COULD IN THE WORST CASE PREVENT RMS STOW AND P/L BAY DOOR CLOSURE RESULTING IN LOSS OF VEHICLE AND-CREW. (UNLIKE-REDUND CREW WINDOW VIEWING, RMS JETTISON, EVA AND COAS FOR CREW VISUAL INSPECTION AND KU BAND RADAR FOR RENDEZ AND STA/KEEP AND WRIST TVC FOR VIEWING RMS ACTIVITY.) SHORTED IRIS LIMIT SWITCH WOULD CAUSE LOSS OF TV CAMERA IRIS CONTROL RESULTING IN LOSS OF EFFECTIVE CCTV COVERAGE AND POSSIBLE LOSS OF MISSION.

REFERENCES: FLT RULES, SHUTTLE FLT OPS MANUAL JSC-12770, SSSH 16.1, .12, .13, .24, SYS SCHEMATIC VS70-740189, OMRSD NSTS 08171

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE/RECOMMENDATIONS

This section provides a cross reference between the NASA FMEA and corresponding IOA analysis worksheet(s) included in Appendix E. The Appendix F identifies: NASA FMEA Number, IOA Assessment Number, NASA criticality and redundancy screen data, and IOA recommendations.

Appendix F Legend

Code Definition

- Because of the contract modification requiring earlier submittal of the assessment report, there was no time to attempt to resolve the issue with the subsystem manager.
- 2 IOA item for which there was no known NASA counterpart.

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS :			NASA II I						Į	IOA RECOMMENDATIONS +				
NASA FMEA NUMBER	: IOA : ASSESSMENT NUMBER		-	SC A		NS C	1 1	H₩/F	l SC	8	С	! ! (SEE	OTHER LEGEND CODE)	: ISSUE
*3=17====43======		• •		====	===	===:		-=== = ==	===	===	====	; ; ;	= 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	: ===== :
	: : CONTRK-10502	11	1	i 1			11		i I			1 2		' X
	CONTRK-10502	11	3/2R	1 ! P	λIΔ	Р	11		! !			!		!
	: COMTRK-1524	11	3/1R		F		11		: !			, ,		
	CONTRK-1596	11	3/2R		NA	•	!!		` !			1		}
	! CDMTRK-3016	H	3/2R		NA		11		•			1		!
	CONTRK-3501	11	1	1			11		1			!		į
	CONTRK-4004	11	1) 1			[]	3/1R	P	P	P	1 1, 2		i X
	: CDMTRK-4008	11	1	1			11	3/1R	l P	P	P	11, 2		; X
	: COMTRK-4033	!!	1	ŀ			!!	3/1R	l P	P	P	11, 2		l X
	: CONTRK-4034	1 1	1	:			! ;			P	P	11,2		; X
	: CONTRK-4037	11	1	ŀ			11			P	P	11, 2		1 %
	: COMTRK-4038	11	I	;			11			P	P	11, 2		; X
	: CDMTRK-4039	11	1	1			11			ρ	P	11, 2		X
	: COMTRK-4040	11	1	!			11		ነ P	P	P	1 1, 2		; ;
	COMTRK-4041	!!	1	i			11		i			11, 2	•	;
	COMTRK-4042	11	}	:			11		ì			1 1, 2		i. X
	COMTRK-4043	1 1	1	i			11					11, 2		-{ X -
	CONTRK-4044	11	/				11		; 	_		11, 2		•
	CONTRK-4514	11	,	i			11		i P	F	P	; 2 ; 2		1 X
	CONTRK-4515 Contrk-4516	 	1	1			11		!			1 Z !		. A
	1 CONTRK-4517	!!	,	!			11		!			!		!
	: COMTRK-4517	11	i j	1			11	,	! !			!		!
	: CONTRK-4519	11	1	!			11	,	! !			!		· •
	CONTRK 4517	!!	,	!			11		!					!
	: COMTRK-4521	11	i				11		!			1		1
	CONTRK-4522	11	i	-			11		ŧ			1		1
	: COMTRK-4523	1 1	1	}			1 !	1	ì			:		1
	COMTRK-4524	11	1	1			1 1	1	} f			i I		3
	CONTRK-4525	11	1	1			11	1	1			1		i.
	: COMTRK-4526	!!	1	1			11		į			1		1
•	: COMTRK-4527	11	1	}			1 1		1			1		i i
	: COMTRK-4528	: :	1	ŧ			! !		i			1		;
	: CDMTRK-4529	11	1	;			1 1		1			I		!
	CDMTRK-4530	11	1	!			11							
	COMTRK-4531	11	1	;			11		;			1		i
	CONTRK-4532	!!	1	1			1 !		i			i		i
	COMTRK-4533	11	1	i			11		i			i		i
	CONTRK-4534	; ;	1,	•			11		;			i		1
	: COMTRK-4535	11	1	1			11		i			1		!
	COMTRK-4536	11	1	í			11		1			1		!
	CONTRK-4537	11	1	j)			11		ı !			1		!
	1 COMTRK-4538 1 Comtrk-4539	11	1	1			11		!			!		!
	; <u>Cunink-4</u> 357	11	1	i !			11		!			1		:
	1	 		 ===	227		1 1 222	=======	, 222:	===	:::::	:::::::::::		, :======:

IDENTIFIERS			NASA		10A RECOMMENDATIONS *				
NASA : FMEA NUMBER :	IDA SSESSMENT NUMBER	CRIT	SCREENS A B C		CRIT HW/F	SCREENS A B C	·	ISSUE	
	CONTRK-4540	;;===== 	!	=;;= 	/	. ====================================		;	
! !			!	11	1	}	1	}	
				11	1			: ;	
}		11 /	i	11	1	1 1		[]	
	COMTRK-6001	11 /	ì	;;	1	•	1	1	
¦		11 /	ł	11	1	i 1	 	}	
1				11	!				
			i .		<i>!</i>	i •		i i	
•		11 /	i	11	1	i i	i F	!!!	
; •			i y	11	1	i i	! !	· ·	
i i		:: <i>1</i>	• •	11	,	! }	1 I	·	
, , !		11 /		11	1	' '	, i i		
! !		11 /		11	i	!	1 1	!	
		 <i>1</i>		11	1	!	}	; ;	
	CONTRK-6012	11 /	}	1 1	1	ì	1 1	;	
	CDMTRK-6013	11 /	1	11	1.	1	¦	1	
!	CDMTRK-6014	H /	t 1	1 1	1	3	! !		
1		11 /	1	1 1	1	!		1	
1		11 /	;	11	!	1	1	1	
,		11 /	¦	11	1	1		i 1	
;		[] /	;	11	1	i ·	i 1	i I	
			j 1	11	/ I	1	į	!	
; 1		11 /	1 !	11	r J	! !	1 !		
<u>;</u>		11 /	•	11	3/1R	, ! P P P	! 2		
‡ •		H /	1	11	3/1R	PPP	1 2	; X	
*		11 /	Ì	11		l P P P	1 1, 2	i X	
1		11 /	1	11	3/18		1 1, 2	l X	
) 1	COMTRK-7034	11 /	1	11	2/2	1	1 1, 2	ł X	
}		$\mathbb{R}_{+}I$,	1 7	2/2	1	! 1, 2	! X	
	···	11 /	1	П	3/1R	IPPP	1 1, 2	l X	
		11 3/3		1 J	1	1	:	<u>.</u>	
			R : P P P	11		;	i 1 =	i i	
		H / H /	i 1	1 1	/ 2/19	; ;	1 2 1 1.2	, X	
		11 / 11 /	1	!!	/ /	:	• 494 •		
		11 /	!	13	1		3	1	
	= =	11 /		11		IPPP	2	i X	
		11 /	1	13			1 1,2	i X	
		11 /	1	11			1 1,2	l X	
		11 /	t i	; ;			1 1,2	; X	
		11 /	1	11			1 1,2	l X	
		11 /	1	1 1			1 1,2	1 1	
		H /	!	11			1 1,2	, X	
		H = f	i	11			11.2	1 X	
			i I	11			1 1,2 1 1,2	i A	
		11 / 11 /	1 !	11			1 1.2	' X	
		H = I	!	11	2/ IR /		1 2	• .,	
† !		11		11	,	:	· = [1	
 								=======	

IDEN	TIFIERS	:: N	ASA	IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IDA : ASSESSMENT NUMBER	:: HW/F	A B C	11 HW/F		OTHER (SEE LEGEND CODE)	: ISSUE	
	:=;===================================	:;;====== ::: /	¦	11 /	1	2	}	
	: CDMTRK-B107	H = I	1	$\Pi = I$	1	1 2	ì	
	: COMTRK-8108	11 /	}	H = I	1	1 2	!	
! 1	: COMTRK-8109	H = I	1	11 /	1	1 2	1	
	CDMTRK-8110	11 /	Į.	$H = I_{-}$		1 2	1	
; ;	: COMTRK-B111	11 /	1	11 /	1	1 2	 	
	COMTRK-8112	11 /	ī	11 /	1	ł 2		
! !	COMTRK-8113	H = I.		11 /		1 2	i •	
	CONTRK-8114	11 /		11 /	1	1 2	1	
! !	: CONTRK-8115	11 /	i .	11 /	i	1 2	1	
]]	CONTRK-B116	11 /	i	11 /	i I	1 2	1	
! !	: COMTRK-8117	11 /	i 1	11 /	i	i 2 ! 2	; !	
	CONTRK-8118	11 /	i	11 /	i 1	i	! !	
•	: CONTRK-8119	11 /	i 1	11 /	1	1 2	!	
	CONTRK-8120	11 /	1	11 /	1	1 2	•	
; ;	COMTRK-8121 COMTRK-8122	11 /	1	11 /	1	! 2	!	
i 1	COMTRK-8123	11 /	1	11 2/1R	, ,	1 1.2	: X	
i 1	1 COMTRK-8124	11 /	Į.	11 2/1R		1 1,2	, ,	
i 1	CONTRK-8125	11 /	1	11 2/1R		1 1.2		
i 1	: COMTRK-8126	11 /	!	11 2/1R		1 1,2	;	
! !	COMTRK-8127	11 /	!	11 2/1R		1 1,2	; X	
1 <u>1</u>	: COMTRK-8128	11 /	!	11 2/1R		1 1,2	X	
! !	: COMTRK-8129	11 /	1	11 2/1R		1 1,2	; X	
! !	CONTRK-8130	11 /	1	11 2/1R		1 1,2	; X	
i	: COMTRK-8131	11 /	1	11 3/2R	PPP	1 1,2	; X	
!	COMTRK-8132	11 /	T i	11 3/2R	PPP	1 1,2	1 1	
: !	: COMTRK-B133	11 /	1	$\Pi = I$	1	1 1	1	
1	COMTRK-8134	11 /	5 1	11 /	1	!	}	
i 1	: COMTRK-8135	11 /	1	11 /	{	f i	!	
‡ ‡	1 COMTRK-8136	11 /	ŧ	11 /	!	1 1	1	
!	CONTRK-8137	$\mathbf{R} = I$	1	11 /	1	i i	į.	
) 	COMTRK-8138	11 /	1	Π . I	ŀ	! !	ł	
3	: COMTRK-9139	$\Pi = I$	†	11 /	1	1 ‡		
İ	COMTRK-B140	11 /	i i	11 /	i	í 	i , u	
1	COMTRK-8141	11 /	;			1 1,2	: X	
‡ •	CONTRK-8142	11 /	•		!PPP	1 1,2	i Ā	
1	COMTRK-8143	11 /	;	11 /	i	j 1	i I	
	CONTRK-8144	11 /	i	11 /	i	i 1	F E	
	CONTRK-8145	11 /	i	11 /	1) 	ī !	
;	CONTRK-B146	11 /	i	11 /	i 1	! !	1 1	
i	CONTRK-8147	11 /	1	11 /	i !	<u>;</u> !	!	
i	CONTRK-8148	11 /	1	11 /	1	į.	!	
i.	: COMTRK-8149	11 /	1	11 /	!	! !	· !	
į ·	: COMTRK-8150 : COMTRK-8151	11 /	•	11 /	†	• •	!	
1	: COMTRK-8151	11 /	!	11 /	!	, !	!	
i 1	: COMTRK-8152	11 /	!	11 /	1	, }		
i I	COMTRK-8154	11 /	!	11 /		1 1	ì	
	: COMTRK-8155	11 /		11 /		•	1	
ī i	i PENIUN AIDU	11 /	1	11	}	1 1	ı ŧ	
1		 ==========	::::::::::::::::::::::::::::::::::::	:::::::::::::::::::::::::::::::::::::::	:::::::::::::::::::::::::::::::::::::::		======	

FREA NUMBER ASSESSMENT NUMBER CONTRK-9156 CONTRK-9157 CONTRK-9157 CONTRK-9159 CONTRK-9159 CONTRK-9160 CONTRK-9160 CONTRK-9160 CONTRK-9164 CONTRK-9164 CONTRK-9165 CONTRK-9166 CONTRK-9166 CONTRK-9166 CONTRK-9166 CONTRK-9166 CONTRK-9167 CONTRK-9167 CONTRK-9168 CONTRK-9168 CONTRK-9168 CONTRK-9170 CONTRK-9171	IDENTIFIERS			N	45A	 -!!-	IOA RECOMMENDATIONS *				
CONTEX-3155	FREA NUMBER				_					ISSUE -=====	
CONTEX-3159	•	COMTRK-8156		1	! !	11	1	, - 1			
COMTRK-8159	}	CONTRK-8157	1 1	1	1	11	1	:		;	
COMTRK-8160				1] 		1	! !		!	
COMTRK-8164				1	i i		1			1	
CDMTRK-8162				1	! !		1			i	
CDMTRK-8163				,			/	; 1	i	i 1	
CDMTRK-B164				1	i		,	i i	! !	!	
COMTRK-8165				1	i 1		1	i !		!	
COMTRK-B166				í I	! <u>!</u>		,	!	: !	1	
COMTRK-B167				,	' !		,	· · · · · · · · · · · · · · · · · · ·	•		
COMTRK-B168	· · · · · · · · · · · · · · · · · · ·			,	: }		į	· .		1	
COMTRK-8169				1	1		1	! !		!	
CONTEX-8170				1	;		1	}		ł	
CONTRK-8172	Ţ	CONTRK-8170	11	1) 1	11	1	; ;		ł	
COMTRK-8173	1			1	I I	11	1	;		1	
COMTRK-8174	Į.			1] 		1	!		1	
CDMTRK-8175	1			1	1		1	1			
COMTRK-8176				1	1		1			i	
CONTRK-B177	!			1	i i		1				
CDMTRK-8178				<i>!</i> ·	•		/	i ,i	· •	i 1	
COMTRK-8179	}			1	; ;		1 -	i	•	1	
COMTRK-8180	i 			1			,	1	! !	i i	
COMTRK-B181	i i			1	; !		1 1	1]	! !	1 !	
COMTRK-8182	! !			ſ	í L		1	1		1	
COMTRK-8183	! !			1	• !		i	! !			
COMTRK-B184	· !			1	!		1	1	1	!	
CDMTRK-8185				1	i i		1	I !		!	
COMTRK-8187	1		11	1	1	; ;	1	!	1	i	
COMTRK-8188	1			1	I 6		1	}		1	
COMTRK-B189	1			1	<u> </u>		1	!		}	
COMTRK-8190	1			1			1			:	
CONTRK-8191				1	1		<i>f</i> .	1			
COMTRK-8192				1	i 1		/	;	i	1	
COMTRK-8193				1	i į		/ /	!	. !	!	
COMTRK-8194				1	t !		i I	!		1	
COMTRK-8195	•			•	• •		1	; ;		•	
COMTRK-8196 /				•	!		,			}	
COMTRK-B197				•	- } •		Ī	;		1	
COMTRK-8198 /				1	;		1	}			
COMTRK-8200			1 1	1	1	11	1	;		î Î	
CONTRK-8201	1			1	;		1	!	;	1	
CONTRK-8202	1			$I_{}$	f i		1	ł		i	
CONTRK-8203 /	ţ .			1	1		1	1	! !	1	
CONTRK-8204	1			1	1		1	1		i	
CONTRK-B205	<u> </u>			!	:		!	•	•	i	
				1	i		Ι,	i	i 1	i ı	
	1			1	i		1	i 1	1	ł Ł	
	i i				 ========		=====		: :===================================	 EEBBBB===	

: IDEN	TIFIERS	pu.e.se 		ASA	11		IDA	RECOM	MENDATIONS *	1
}	*****		·		- ; ; -					;
: NASA : FMEA NUMBER	I IDA I ASSESSMENT NUMBER	CRI HW/		SCREENS A B C			i scre I a b		: OTHER : (SEE LEGEND CODE)	I ISSUE
±24523311111211113333333 -	: CONTRK-8206	==== /	2231	:	:;;≠ }}	/	; = = = = = !	2222	2292222222222222 	; ===== ;
; !		 11 <i>1</i>		1	11	1			!	1
• !		11 /	;		!!	1	† 1			(
!		11 /		}	\mathbb{H}	1	i i		<u> </u>	!
I i	: COMTRK-8210	!! /	i	1	! !	1	1		! !	;
! !		H = I		;	11	1	;		!	3
!		11 /	i		11	1	1			1
		11 /			11	1	;			1
		!! /	i	 	!!	- {	i		i ,	i i
			,	i 1	 -	1	i 1		i 1	; ;
i 1		11 /		! !	11	i I	: !		!	:
! !		11 /	!		11	,	!		• 	
•		11 /			11	<i>'</i> ,			!	
		11 /			!!	i	:		, , ,	}
· !		 11 <i>1</i>			11	1	!		1 1	
1		11 /			1 1 1 1	1	<u> </u>		<u> </u>	!
! !	: CDMTRK-8223	11 /		<u>:</u>	1 !	1	t 1		<u> </u>	!
	: COMTRK-8224	11 /	;		1 5 1 1	1	1		! !	1 1
1		11 /			{ 1	1	;		<u> </u>	1
		11 /	;		1 1	,1	i		1	:
		11]			11	1	1		i i	\$
 		11. /	i		11	1			! !	1
! 1		11 /			11	/	!		1	1
 		11 /	i	i !	11	1	; 1		i 1	1 1
		11 /		i I	 	i i	i t		i I	1 1
i 1		11 / 11 /	!	! •	!]	1	!		l I	1 1
1 5		11 /		!	11	1	! !		‡ 1	,
		11 /		\ }	! !	,			, 1 1	1
1 1		:: <i>i</i>			 ! !	1	!		! !	
, !		11 1			11	1	1		 	}
! !		11 /			1 1	1) E		i 1	: :
† 1	: CDMTRK-8239	H = I			1 1	1	3 1		<u> </u>	!
!		11 /	i		1 1	1	i		1	1 1
1		11 /		1	1 1	1	;			}
i i		11 /			!!	/	! !	•	; ;	1
		11 /			! !	2/1R			1 1,2	; X ;
		11 /			11	2/1R			1 1,2	;
		11 /			1 1 1 1	2/1R 2/1R			1 1,2 1 1,2	;
i I						2/1R 2/1R			1,2 1,2	: A :
i 1		ii / ! /			11	2/1R 2/1R			1,2	1 X 1
!		11 /	!		1 1 1 1	2/1R			1 1,2	,
; ;		11 /	!		11	2/1R			11,2	
• •		11 /			11	3/2R			1 1.2	; X
; }		. ,			11	3/2R			1 1,2	1 X 1
! !		11 /			! !	3/2R			1 1,2	1 X 1
 		11 /	ļ		! ! ! !	3/2R			1 1,2	1 X 3
! !	: CDMTRK-8255	11 /			ţ ;	1	!		1 1,2	1.
t	t I	11			1 t		i i		} •	: :
======================================		22222	222		===	======	=====	=====		=======

NASA	
CDMTRK-8255	ISSUE
CONTRK-8257	i
COMTRK-8259	1
COMTRK-B260	1
COMTRK-8261	1 · X
CONTRK-8262	1 X
CONTRK-8263	; X
COMTRK-8264	; X
COMTRK-8265	1 X
COMTRK-8266	{ X
COMTRK-8267	; X
COMTRK-8268	; ;
COMTRK-8269	ł X
COMTRK-8270	i X
CONTRK-8271	}
	i k
COMTRK-B273	i
	i
COMTRK-8275	i
COMTRK-8275	i I X
COMTRK-8277	, X
	, A
	;
	;
COMTRK-8281	, A
	i X
	;
	: X
	. X
COMTRK-8287	i X
	1
: COMTRK-8289 !! / ! !! / ! ! 1,2	1
	1
. LIMITATOLIN (1 f 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3
CONTRK-B291 / 1,2	;
COMTRK-8292	; ;
COMTRK-B293	}
: COMTRK-8294 :: /	1
COMTRK-8295 /	1
: 1 CONTRK-8296 11 / 1 11 / 1 1 1,2	!
; COMTRK-8297	ţ
: 1 COMTRK-8298 11 / 1 11 / 1 11,2	ł
COMTRK-8299	;
COMTRK-B300	ŀ
;	1
: COMTRK-8302 /	1
: COMTRK-B303 /	1 X
: COMTRK-8304	ł X
: COMTRK-8305' :	; X
	i

IDENTIF	TERS	 ! [NASA	1	IDA RĒCOM	MENDATIONS *	
NASA FMEA NUMBER	ASSESSMENT NUMBER	H HW/F		11 HW/F	SCREENS		I ISSUE
	•	;;===== {} /		2/1R		1,2	}
		11 /	;	11 2/1R	PPP	1 1,2	Ľχ
•	CONTRK-8308	11 /	1	11 2/1R	PPP	1 1,2	, χ
	CONTRK-8309	11 /	1	11 2/1R	IPPP	1,2.	¦ X
	COMTRK-B310	11 /	1			1,2	; х
		11 /	-	11 2/1R	PPP	1,2	: X
<u> </u>		{} <i>f</i>		11 2/1R		1,2	X
:		11 /		11 2/1R		1,2	X
1				11 2/1R		1 1,2	X
		11 /		11 2/1R		1,2	X
1		11 /	-	11 2/1R		1 1,2	! X
		11 /	1			1 1,2	X
		11 /		11 2/1R		11,2	! X ! ! X
1		11 /		11 2/1R		1 1,2	• •-
		11 /		11 2/1R		1 1,2	! X : Х
		11 /		11 2/1R		1 1,2	X X
		11 /	i	11 2/1R		1,2	. A
	= :	11 /	i I	11 2/1R		1,2 1,2	
	COMTRK-8324	ii / 11 /	i I	11 2/1R 11 2/1R		1 1,2	1 A
		H /	1 1	11 2/1R		1 1,2	,
i •		11 /	: •	11 3/2R		1,2	;
i •		11	· •	11 3/2R		i 1,2	. X
! !		11 1	1	11 3/2R		1 1,2	. X
		11 /		11 3/2R		1,2	. X
				11 3/2R		1 1,2	X
		11 7	!	:: 3/2R		1,2	X .
		11 7		11 3/2R		1 1,2	: X
•		11 /		11 3/2R		1 1,2	X i
* †		$H^{-1}I^{-1}$		11 3/2R		1 1,2	X
1	•	11 /	I t	11 3/2R	;	1 1,2	{
	COMTRK-8337	$\Pi = I$	1	11 3/2R	IPPP	1,2	; Х
!	COMTRK-8338	11 /	1	11 3/2R	PPP	1 1,2	ì X
; ;	: COMTRK-8339	11 /	1	11 /	1	1 1,2	i •
₹		11 /	1	11 /		1 1,2	;
!		11 /	1	11 /		1 1,2	!
! !		11 /	i	11 /		1,2	1
		11 /	1	11 /		1 1,2	i i
		11 /		H = I		1,2	i
•		11 /	1	11 /		1,2	i
		11 /	1	11 /		1 1,2	i
		11 /	1	11 /		1,2	,
		11 /		H /		1 1,2	i •
		11 /	i	11 /		1 1,2	į E
•		11 /	;			1 1,2	i •
•			i	11 /		1,2	i T
		11 /	i 1	H /		1 1,2	; !
		11 /	í 1	11 / 11 /		1 1,2	1 !
			i 1	11 /		1,2	; !
1		11 / 11	1	11	!	1 1,2	1
	i	i I	!	11		; ************************************	, =======

IDE	NTIFIERS	1;	N	ASA	11		10	A RECO	DMMENDATIONS *
NASA FMEA NUMBER	: IDA : ASSESSMENT NUMBER			SCREENS A B C			SC A ===	REENS B C	; OTHER : ISSU ; (SEE LEGEND CODE) ;
	: CDMTRK-8354	-	/	1	11	1	1		1 1,2
	: COMTRK-8357	11	1	!	1 1	1	i i		1 1,2
	: COMTRK-B35B	1 1	1	;	! !	1	i i		1 1,2
	: COMTRK-8359	Н	1]	11	1	1		1 1,2
	: COMTRK-8360	!!		j T	1 1	1	!		11,2
	COMTRK-8361	11		1	11	1	1		1 1,2
	: COMTRK-8362	1 1		i I	!!	- /	1		1 1,2
	1 CDMTRK-8363	1 1		!	11	2/1R		PP	1,2 X
	: CDMTRK-8364	1 !		ì	1 1	2/1R	P	P P	1 1,2
	: CDMTRK-8365	1 1		1	11	- 1	:		1,2
	COMTRK-8366	1 1		! !	11	1	1		1 1,2
	COMTRK-8367	11		}	[]	/			1 1,2
	1 COMTRK-8368	11		; ;	11	2/1R	! P	P P	1 1, 2 X
	COMTRK-B369	11		}	11	/	i		1 1,2
	CDMTRK-8370	11		1	11	1	i •		11,2
	! COMTRK-8371	11		i	11	1	i		11,2
	CONTRK-8372	11		i	11	,	i 3		1,2
	: COMTRK-8373	11		i	11	ן מונה	i E D	D D	1 1,7 1 1.2
	: CONTRK-8374	1 1		i 1	11	2/1R	i [*	P P	,-
i	! COMTRK-8375	11		t F	11	/ 2/1R	! Р	p ç	11,2 11,2
i	; CDMTRK-8376 ; CDMTRK-8525 ;	11		<i>t</i> 1	11		i r	ГГ	11,2 1 X
· · · · · · · · · · · · · · · · · · ·	1 COMTRK-8525 .	11		1	1 !	,	1 !		11,2
, ' !	1 COMTRK-8527	11		i !	11	2/1R	! P	РР	1 1,2 X
i I	: CONTRK-8528	11		!	11	1	!		11,3
I	: CONTRK-8529			• !	11	2/1R	! Р	ρρ	1 1,2
I	: COMTRK-8530	11		1	11	1	;		11,2
!	: COMTRK-8532			• •	11	,	:		1 1,2
1	1 COMTRK-8534			!	11	1	ŧ		11,2
I a	CONTRK-B536	5		!	l i	1	Į.		1 1,2
· i	CONTRK-9001	1		1	1 1	3/1R	P	NA P	1 2 1 X
! !	: CDMTRK-9011	1		j T	f 1	3/2R	! P	PP	1 2 I X
}	: COMTRK-9012	1	1 /	1	! ! ! !	3/2R	i P	MA P	
1	: COMTRK-9021	1	1 /	t 1	1 1	3/3	;		1 2 1 X
! ∮	: CDMTRK-9031	i :	1	1	! !		-		1 2 i X
<u> </u>	: COMTRK-9041	1		1	1 1				
!	: COMTRK-9042	1		i	11		P	NA P	
 	COMTRK-9054	1		1	! !		Į.		1 X
i i	: COMTRK-9061		3/3	!	1 1		[
i ī	: COMTRK-9062	ì		1	11		1		1
	: COMTRK-9063		3/3	1	11		:		1
1	: COMTRK-9064		3/3	1	11		;		1
	1 COMTRK-9065	1		I	1 1		i		
1	: COMTRK-9066	i		;	11		i		i i
1	CONTRK-9067	1		1	1 1		i		i i
!	: CDMTRK-9068	!		i •	11		:		i ;
! !	: CDMTRK-9069	1		i	11		i		į į
i	: COMTRK-9070	;		1	11		i 1		; 1
; { *	CONTRK-9071		3/3	i ı	11		í i		1 2 1 1
•	* COMTRK-9521	1		i I	11		i 1		1
	i	ï	Ī	i	1;		•		; ====================================

	,)	IASA		11	TOH RECOM	MENDATIONS *	
	IOA ASSESSMENT NUMBER		: SCREEN		HW/F	SCREENS A B C	; OTHER ; (SEE LEGEND CODE)	: 155UE
=====================================	COMTRK-9541		1		3/1R	•	1	
1 1	CONTRK-9542	11 /	1		11 3/1R	P NA P	1 2	t X
<u> </u>	CONTRK-9561	3/3	1			! !		1
		11 3/3	1		11 /	1	! !	F
	= =.	3/3	1			i	1 1	1
•		11 3/3	i		11 /	<u>!</u> 1	1	1
		3/3	!		[] /		} !	1
		11 3/3	1			i	•	i
		11 3/3	i			i 1	; ;	i i
		11 3/3 11 3/1R	i ! P P		(1 /) (1 /)	i I) 1	
		3/1R 3/1R				! !	! !	!
		: 3/1R	•			<i>i</i> !	! !	; !
		11 2/1R			11 /	: }		, !
		3/1R		•	,, , 	, 	'] !	
		3/1R				!	.]
		1 2/1R			11 /	· !	 	1
		11 3/3	1		11 /	1 1	¦	i i
	CONTRK-9053	11 3/3	1		$H = F^{-1}$	1	} !	1
	CONTRK-5003	11 2/2	1			! !	! !	1
1	CONTRK-5004	1 2/1R	; P P	P	H / H	!	i i	i :
'	CDMTRK-5005	11 2/2	:		11 /	į	! !	1
. 11	COMTRK-5006	1 2/1R	i P P		H / I	1	<u> </u>	;
		11 2/1R				1	1 1	1
	••••••	1 2/1R				i) 	
		11 2/1R	I P P		11 /		1 1	
		1 2/2	1			<u> </u>		
				-		i ,	i	i i
		11 2/IR				i soo	i }	. X
		3/1R 2/2				:	1 1 1	1 A 1
		11 2/2	į.		11 / 1	! !	! !	!
			P P			! !		1
		11 3/3	!		:: 3/1R :	' ! P F P	· ! 1	! X
		11 3/3	:			· · · · ·	, • !	1
		11 2/1R	! P P		·	1	1 1	
		1 2/1R						
		11 3/2R			11 /	1	;	1
		1 3/1R	i P P	P				! !
	CDMTRK-7002	11 2/1R	;	P		! •	1	1
1 1		1 2/1R		•		!	ł	!
					1/1	!	1	; X
		1/1) 	! !
		11 3/1R			11 /	!	1 1	
. ,		11 3/1R						:
		11 3/1R			11 / 1		•	
		11 3/1R			11 / 1	i 1	i 1	1 i
		11 3/1R				; 1	i I	, i
•		11 3/1R				l 1	i 1	1 i
1 05-20-22212-1		3/1R 	: F F		i) !	! !	!!!
i i			 	227	::	· ====================================	: #====================================	,

IDE	NTIFIERS	11	N	ASA			11		IDA RECOM	MENDATIONS *	
NASA FMEA NUMBER	; IDA : ASSESSMENT NUMBE	R ::	HW/F	A	CRES	ENS C	!!	CRIT HW/F	SCREENS	(SEE LEGEND CODE)	i ISSUI
======================================	: CONTRK-7005C	;;== ;;	3/1R		===: p	== = = P	=;;: ;;	/ /	:	====================================	;===== }
05-2C-22214-1	: COMTRK-7007	11	3/3	1			11	1	1	! !	1
05-2C-22214-2	: COMTRK-7007A	11		P	P	Р	;;	1	;) 1	!
05-2C-23000-1	CDMTRK-27058X	11				P	- 11	,	1	! !	1
05-20-23000 1 05-2D-22700-1	CONTRK-7020	13				P	Ĥ	· · · ·	i	!	1
05-2D-22700-2	: CDMTRK-7021	1 1		 !		٠.	11	1		· .	!
0J-19-11/00-1	COMTRK-7022	11		1			11	,	;	!	1
AE 38 397AA 7	: CDMTRK-7020A	11		י קיי	0	D	11	,	•	· !	:
05-2D-22700-3		11		1 F 1	r	ſ	11	,		i I	•
05-2D - 2270 0-4	COMTRK-7021A			1				,	1	; •	1
	: COMTRK-7022A	11		i		Б	11	,	1) I	I .
05-2D-23300-1	CDMTRK-27059X	11				P	11	,	i	i i	1
05-2F-22 4 00-1	: COMTRK-7013	11				P	11	į	i	i	
05-2F-22 4 00-2	: CDMTRK-7010	!!	• • • • • • • • • • • • • • • • • • • •		P	P	11	1	i	i	i
	: CONTRK-7014	;;	2/1R	¦ P	P	P	11	1	1	1	
05-2F-22 4 01-1	: COMTRK-7015	11	3/1R	P	P	P	11	1	1	1	ł
05-2F-22403-1	: COMTRK-7019	! !	3/1R	; P	P	P	11	1	[î 5	į
05-2F-22500-1	COMTRK-7011	11	3/1R	¦ P	P	P	11	1	1	1	1
05-2F-22500-2	: COMTRK-7010A	1 1	3/1R	; P	P	P	1 1	1	I	ŧ ;	;
	: COMTRK-7012	; i	3/1R	¦ P	P	P	[]	1	1	9 1	1
05-2F-22601-1	COMTRK-27060X	11		; P	P	Р	1 1	1	1	; 1	i ī
05-2F-22601-2	CONTRK-27061X	5 I		P	þ	Р	11	•/	1	1	!
05-2F-23100-1	: CDMTRK-27062X	- 11		; P	P	P	11	1		! 1	1
05-26-21000-1	: CONTRK-2001	! }			•		11	i	1	} *) i
05-26-21050-1	CDNTRK-2010	11		1			11	,	į	· !	!
	CDMTRK-2011	3 1 3 1		1			11	,	1	1	•
05-26-21050-2		11		; ī			13	,	1	! !	i
05-26-21110-1	: CONTRK-2013			1			1,1		1	i i	•
AF DO 54416 5	1 COMTRK-2014			i I			11	1	1	i I	1
05-26-21110-2	: COMTRK-2013A	11		i ,				<i>!</i>	1	1	i
05-26-21110-3	COMTRK-2013B	11		; 	,	a r.	11	1	i	i	1
05-26-21200-1	CONTRK-1027	11				AP	1 1	′.	i	•	
	: CDMTRK-1028	!!				A P	1 !	1	í	i	1
	: COMTRK-1029	1 !				AP	11	/	•	•	ì
	: COMTRK-1030	11				A P	1 ;	1	1	i .	i
	: COMTRK-1031	1 1	3/18	1 5	, H	A P	1 1	1	ì	:	i
	: CDMTRK-1032	: :	3/1R	1 8	N	A۶	11	1	1		1
05-26-21204-1	COMTRK-1035	- 11	3/1R	1 F	N	A P	1 1	1	1	1	ì
0 5-2G- 2120 4- 2	: COMTRK-1035A	1 1	3/1R	¦	M	ΑP	! }	1	I.	-	1
05-26-21204-3	: CONTRK-1036	11	2/2	1			1 1	1	1	-	1
05-26-21204-4	: COMTRK-1036A	1 1	3/2R	1 P	N	ΑP	11	- /	ţ	f C	1
05-26-21207-1	CDMTRK-1037	! }	3/3	i			11	1	l	1	;
· · · · · · · · · · · · · · · · · · ·	COMTRK-103B	1 1		!			1)	1	i i	!	1
	EDMTRK-1039	11		1			11	1	1	!	!
	1 COMTRK-1040	1 1		i i			11	1	!	F F	}
05-26-21208-1	# COMTRK-21077X	1 1		; ; F) Р	P	11	1	ī !		1
05-26-21210-1	: COMTRK-1013A	11				A P	11	Ī	1	1	1
yg ag alaiv i	: CONTRK-1014	I :				ΑP	11	· /	1	1	1
05-2 G -21210-2	1 CONTRK-1013	1 1		, (٠1	71 I	! !	i I	† †	•	
		1 1		; ;	1 1	ΑP	11	,	1	!	!
05-26-21210-3	: COMTRK-1013B	11				нг АР	11	1	•	i !	!
05-26-21215-1	CONTRK-1019							΄,	1	1	1
	COMTRK-1020	; ;			- 14	A P	!!		j I	:	i 1
	1	1 1		1			1 1 1 1		i	i	İ

IDEN	TIFIERS		N	ASA			11		10A RECOM	MENDATIONS *	
NASA FMEA NUMBER	: IOA : ASSESSMENT NUMBER	!!	HN/F	l A	-	C	! !	HW/F	SCREENS	OTHER	ISSUE
05-26-21215-1	CONTRK-1022	11	3/2R	! P	NA	P	: 1	1	1		, -
	CONTRK-1023	11	3/2R				П		<u>;</u>		;
05-2G-21215-2	: COMTRK-1021	11	3/2R		NA		::	-			
	CONTRK-1024	11	3/2R		NA		11		;		i
05-26-21220-1	COMTRK-1016	!!	3/2R		NA		11	-	1		i
	COMTRK-1017	11	3/2R		NA		1 1		i I	i I	i 5
AF DD D4DD7 D	CONTRK-1018	11	3/2R		na Na		11		1) 	! !
05-28-21227-2	COMTRK-1025	11	3/2R 3/3	i F	HH	r			1	! !	1 <u>!</u>
AE	COMTRK-1026 Comtrk-21078x	11	2/2	i I			11		1 1	! !	! !
05-26-212841-2 05-26-21500-1	: COMTRK-21076X	11	3/1R	! P	NA	р	11		!		}
03-78-71300-1	1 COMTRK-1044	11	3/1R				11				!
	1 CONTRK-1045	11	3/1R		NA		11	-	!	! 1	}
	CONTRK-1046	11	3/1R				1			. <u>.</u> ! 1	l X
05-26-21531-1	: CONTRK-1059	11	3/2R								
05-26-21531-2	CDMTRK-1060	11	2/2	!	1311	•			!		t I
05-2G-21532-1	COMTRK-1061	11	3/2R	i P	NA	p			!	1 1	ł X
05-26-21532-2	CDMTRK-1062	11	2/2	;			1 1		!	1 1	<u> </u>
05-26-21533-1	CONTRK-1057	11	3/1R	i P	NA	P			1	· · ·]]
05-26-21533-2	: COMTRK-1058	1 1	2/2	1			} }	1	1	!	ļ
05-26-21534-1	: COMTRK-1063	!!	3/2R	şρ	NA	P		1	1	!	? T
05-26-21534-2	L COMTRK-1064	1 1	2/2	! i			1 1	- 1	1] 	1
05-26-21535-2	: COMTRK-1066	! ! ! 1	2/2	1			!!	1	1		,
05-26-21541-1	CONTRK-1643	11	3/2R	; P	NA	P	1	1	1	}	t E
	COMTRK-1644	! !	3/2R	1 P	NA	P	Н	- 1	1	}	ī i
	CONTRK-1645	1 1	3/2R	1 P	NA	Р	1 1	/	1	i f	! ;
	COMTRK-1646	1 1	3/2R	P	NA	P	Н	1	1	l	I I
	: COMTRK-1647	1 1	3/2R	1 P	NA	P	;		}		i
	CONTRK-1648	1 1	3/2R		NA		1 1		1	: :	1
	COMTRK-1649	;;	3/2R		NA		11		1		1
	: CDMTRK-1450	1 1	3/2R				11				1
	: CONTRK-1651	11	3/2R				1 1		}		; ,
7	: COMTRK-1652	1 1	3/2R				11		į	;	:
	1 CONTRK-1653	; ;	3/2R				1 1		i	1	; 1
	CONTRK-1654	11	3/2R				11		1	i 1	1
05-26-21543-1	1 CONTRK-1639	1 1	3/1R				11		1] i	I I
	CONTRK-1640	11	3/1R 3/1R				1 1		1	i I	f L
	: COMTRK-1641 : COMTRK-1642	11	3/1R				11		1	! !	, !
05-26-21544-1	COMTRK-1655	11	3/1R				1 1		!		
V3-28-2134 4 -1	: CDMTRK-1656	!!	3/2R				11		!	1 1	!
	CONTRK-1657	11	3/2R				11		1	f i	!
	COMTRK-1658	11	3/2R				11		1	•	1
	COMTRK-1659	!!	3/2R				; ;		: 1 1	t 3	<u> </u>
	: CONTRK-1660	11	3/2R				!!!		1	!	\$ 1
	: CDMTRK-1661	11	3/2R				1		1		1
	COMTRK-1662	11	3/2R		and and		1 !		1		!
05-26-21800-1	CDMTRK-1047	11	3/2R				1		! !	1	<u> </u>
05-26-21800-2	CONTRK-1048	11	3/1R				;		1		!
05-26-21801-1	: CDMTRK-1051	11	3/2R	_			1		1	1 1	; X
	1	11		1			1 1		1	<u>!</u>	!

: IDENTI	FIERS	! N	ASA :	!	IOA RECOM	MENDATIONS *	
: NASA : FMEA NUMBER	IOA :	HW/F	1 A B C 1	HW/F	SCREENS	: OTHER : (SEE LEGEND CODE)	: ISSUE
: 05-26-21801-2		1 2/1R		2/2	1	1 1	; X
1 05-26-21802-1	: COMTRK-1053	1 3/2R		1 2/2	1	1.1	ł X
: 05-26-21802-2	COMTRK-1054	1 2/1R	IP NAP I	1 2/2	1	1 1	1 1
1 05-26-21803-1	: CDMTRK-1055	1 3/2R	• • • • • • •	3/3	1	1 1	; X
1 05-2 G- 21803-2	COMTRK-1056	: 3/3		1 2/2	!	1, 1	i X
1 05-26-21841-1	: CDMTRK-1663	1 3/2R		1 /	1	1	:
T.	CONTRK-1664	1 3/2R	IP NAP I		ŀ	!	;
1				1 /	}	1	1
!			IP NAP!			1	1
1 05-26-22600-1		1 3/2R		1 /	1	1	1
1 05-26-22800-1		1 2/2		1 /	1	Ī	1
1		2/2		1 /			
1 05-26-22900-2		1 2/2		1 /	1		i
1		2/2		1 /	1		i
		1 3/3		1 /	i	<u>i</u>	i
1 05-26-22900-1		1 3/3		1 /	i	1	i
1		3/3		1 /	i	i	i
05-26-23500-1		11 3/2R		1 /	i 1	i 1	
1 45 55 57565 7		1 3/2R		1 /	1	1	1
: 05-2G-23500-3		2/2		/ /	i F	i t	1
		1 2/2	•	1 /	1	1	1
: 05-26-23500-4		11 2/2 11 2/2	•	1 /	1	1	1
i •		1 2/2	•	1 /	1	i	1
į	. == : : : : : : :	1 2/2		1 /	1	1	1
1 05-26-23510-1		1 2/2 11 3/2R		1 /	! !	i i	!
05-26-23510-2		3/2R		1 /	į	!	:
: 05-26-23510-3		1 2/2		1 /	!	!	:
1 05-26-23521-1		3/3		1	;	•	I I
1 05-28-23522-1		3/3		1 /	}		1
1 05-29-23522-2		3/3		1 /	1	1	!
1		3/3	; I	1 /	!	1	1
1	1 COMTRK-2006	3/3	1	1 /	I I	!	1
1 05-23-21300-1	: COMTRK-3005	3/2R	IP NAP I	1 /	1	!	1
!	: COMTRK-3006	1 3/2R	IP NA P I	1 /	:	1	:
1	: COMTRK-3007	11 3/2R	IP NAP :	1 1	1	!	1
	: COMTRK-3008	3/2R		1 /	1	1	1
1 1		11 3/2R		1 /	!	•	!
1		1 3/2R		1 /	ï	1	i
1 05-2J-213013-1		11 2/2		1 /	1	1	1
		1 2/2		1 /]	1	1
05-2J-213014-2		3/2R		1 /	1	1	;
1 05-2J-21304-1		1 3/2R		1 /	1		i
1 05-2J-21304-2		1 2/2		1 /	i	1	;
(05-2J-21307-1		11 3/2R		1 /	i	i 1	i.
: 05-2J-21307-2		H 3/2R		1 /	1	1 1	f 7
: 05-2J-21308-1		1 3/2R		1 /	i 1	I f	ı
: 05-2J-2130B-2		11 2/2 11 3/2R		/ /	1	† 1	1
1 05-2J-21309-1		11 3/2K		1 /	1	<u>;</u>	1
1 05-2J-21309-2		H 2/2 H		i /	1	1	• •
t	1	· I	i i			1	'

IDE	NTIFIERS		NASI	À		 -}!		IOA	RECO	MENDATIONS		
NASA FMEA NUMBER	; IOA ASSESSMENT NUMBER		1 /	A B	C	! ! ! !	HW/F	l A	REENS B C	! (SEE LE	OTHER GEND CODE)	! ISSUE
======================================	: COMTRK-3011	11 3/2R				11	/	! !		; :		i i
	: COMTRK-3012	11 3/2R	1 1	P NA	P	11	1	;		1		1
	CDMTRK-3013	11 3/2R	: 1	P NA	P	1 1	1	l		1		1
	COMTRK-3014	11 3/2R			P	1 1	1	!		1		1
05-2J-21615-1	: CDMTRK-3028	11 3/2R	1	P	P	11	1	!				1
05-2J-21615-2	: CDMTRK-3029	11 2/2	ł			11	1	}		1		i
05-2J-23600-1	: COMTRK-3003	11 2/2	}			11	′.			•		i
	CONTRK-3004	11 2/2	1			11		i ,		i		i
05-2J-25500-1	CONTRK-3001	11 2/2	i	n	n	11	′,	i		i		i I
05-2P6-21200-1	; CDMTRK-1033	11 3/1R				11		i I		i		1
05-2PG-21200-2	; CDMTRK-1034	11 3/1R 11 2/1R			P	11		ነ } የ	РР	1 1		, 1 X
05-2R-5100-1	CDMTRK-4001 CDMTRK-4011	11 2/1R			P	!!	• • • • • • • • • • • • • • • • • • • •		PP	1 1		, ,
	COMTRK-4012	11 2/1R			P	11			РР	1 1		, <i>x</i>
	1 CONTRK-4013	11 2/1R			p	11			P P	11		i X
	: CDMTRK-4014	11 2/1R			Р	1 1			РР	1 1) X
	CONTRK-4015	11 2/1R			P	11			P P	11		! X
	COMTRK-4016	11 2/18			Р	1 !			P P	1 1		1 X
	CONTRK-4017	11 2/1R	1 1	PΡ	P	!!	3/1R	₽ P	PP	1.1		1 X
	: COMTRK-4018	11 2/1R	;	PP	Ρ	1 1	3/1R	l P	P P	1 1		; X
	CONTRK-4019	11 2/1R	! !	r p	P	1 1	3/1R	; P	P P	1 1		X
	: CDMTRK-4020	11 2/1R	1	PP	Ρ	1 1		P	PΡ	1 1		i X
	CDMTRK-4021	11 2/1R	1 1	PP	P	1 1			PP	1 1		i X
	1 CONTRK-4022	11 2/1R	;	PP	Ρ	; ;			PP	1 1		; X
•	: CDMTRK-4023	11 2/1R			P	11			PP	1.1		; X
	1 CDHTRK-4024	11 2/1R		-	P	11		! P	P P	i 1		i X
	: COMTRK-7026	11 2/1R			P	; ;	!	i		i		i i
	: COMTRK-7027	11 2/1R			P P	11		i 1		i		1
AF DD T1A6 6	: COMTRK-702B	2/1R 3/1R			P	11		1		ţ		!
05-2R-5100-2	: COMTRK-4001A : COMTRK-4011A	11 3/1R			þ	11	1	! !		!		!
	CDMTRK-4012A	11 3/1R			P	11	,	• •		1		1
	CONTRK-4013A	11 3/1R			P	! !		}		1		1
	: COMTRK-4014A	11 3/1R			P	11		i i		·		1
	COMTRK-4015A	11 3/1R			٩	1 1	1	ì		i		ì
	COMTRK-4016A	11 3/1R			P	}	1	t i		!		1
	COMTRK-4017A	3/1R	1	PP	Ρ	1 1	1	ļ		1) 5
	: COMTRK-4018A	11 3/1R	1	PP		: I	1	! 		1 1		!
	: CDMTRK-4019A	11 3/1R	1	P		1 F		ļ		1		i
	: COMTRK-4020A	11 3/1R	1	PΡ	P	1 1		1		† 3		1
	: COMTRK-4021A	11 3/1R			P	11		ł		i t		!
	1 COMTRK-4022A	11 3/1R			P	1 1		}		1		:
	CONTRK-4023A	11 3/1R			P	! !		;		i		i
	CONTRK-4024A	11 3/1R			Ъ	; i		;		1 4		i د د
	: COMTRK-7025A	11 3/1R			P	!!		i ı		11		; X
	CONTRK-7027A	11 3/1R			p	1 4		; 1		1 1		1
	COMTRK-702BA	11 3/1R		PP	P	1 1		i I		1 1		ı Ā
05-2R-5100-3	: COMTRK-24062X		1	p p	P	11		i !		1 1		! X
05-2R-5104-1	: CDMTRK-7044 : CDMTRK-7046			P P	•	11		1		1 1		. A

IDE	ENTIFIERS		ASA			11		104	RECDI	MENDATIONS *	
NASA FMEA NUMBER	: IDA ! ASSESSMENT NUMBER	CRIT	; 50	В	3	11		A	B C	: OTHER ! (SEE LEGEND CODE)	ISSUE
======================================	: COMTRK-7045	11 2/2	}			11	/				:]
	: CDMTRK-7047	11 2/2) i			1 1	1	;		!	:
05-2R-5105-1	: COMTRK-7048	11 3/1R	¦ P	P	P	11	1	1		†	!
05-2R-5105-2	: CDMTRK-7049	11 2/2	}			;;	1	i		1	!
05-2R-5107-1	: COMTRK-4035	11 2/2	1			! !	3/3	l		1 1	! X
	: CDMTRK-4036	11 2/2	;			;;	3/1R	P	PΡ	1 1	ł X
	1 COMTRK-7041	11 2/2	1			! !	1	1		-	
05-2R-5107-2	: COMTRK-4035A	11 2/2	i			11	3/3	1		1 1	; X
05-2R-5108-1	: CONTRK-7050	11 3/2R	l P	P	P	!!	1	i		1	
05-2R-5108-2	COMTRK-7050A	11 3/3	1			11	1	;		1	ì
05-2R-5108-3	: CONTRK-7051	11 2/2	1			11	<i>,</i>				:
05-2R-5112-1	1 CDMTRK-4025	11 2/2	!			11	3/1R	:		1 1	} X
	: CONTRK-7036	11 2/2	1	_	_	11	/ 			1	i 1 "
05-2R-5112 - 2	: COMTRK-4026	11 2/1R		P	P	11	3/1R	1 P	PP	1 1	! X
	CDMTRK-7037	11 2/1R	! P	P	P	11	/	; 		1	i . v
05-2R-5113-1	CONTRK-4027	11 2/2					3/1R	! P	PP	11	, X
	! COMTRK-7039	11 2/2	;	_		11	7.45	i 	B 5	i	i 1 Y
05-2R-5113-2	COMTRK-4028	11 2/1R		P	P	11	3/1R	! P	PP	i 1	, X
 .	COMTRK-7040	11 2/1R	: 1	Р	P	11	/	i 1		i ! 1	1 ! X
05-2R-5200-1	; CDMTRK-4002	11 2/2	i			11	3/3	i !		i 1	1 A
	CDMTRK-7029	11 2/2	i . n	5	n	11	/ 3/3	i 1		1	: X
05-2R-5200-2	- : COMTRK-4002A	11 2/1R	ir	۲	P	11	3/3 /	; ;		1 i	1 A
05-2R-5200-3	CONTRK-24063X	11 2/2	1			11	,	i 1		i	1
05-2R-5214-1	: CDMTRK-7042	11 2/2 11 2/1R	1 0	p	P	11	,	1 1		1	! !
05-2R-5214-2	COMTRK-7043	11 2/1R		Г Б	P	11	3/1R	, P	P P	! 1	: X
05-2R-5300-1	: COMTRK-4005	11 2/1R		г Б	r D	11	3/1R		p p	<u> </u>	;
	CDMTRK-4006 CDMTRK-4007		, r	£	r P	11	3/1R	_	P P	! 1	
	COMTRK=4007	11 2/1R		p	, D	11	3/18		PP	11	. X
	: COMTRK-7030	11 2/1R		, p	p	-	/	!		!	
	CDMTRK-7031	11 2/1R		þ	P	11	i	!		•	!
	COMTRK-7032	11 2/1R		Р	p	Н	,	!			1
	: CDMTRK-7035	11 2/18		P	P	11	į	1		1	i
0 5-2%- 5300 - 2	CCMTRK-4005A	11 3/1R			P	11	1	}		Ţ	<u> </u>
05-2R-5300-3	COMTRK-24064X	11 2/2				1 1	1	i		1	i
Va 21. 3000 3	: COMTRK-4005B	11 2/2				11	3/1R) P	PΡ	11, 2	1 X
05-2R-5300-4	CBMTRK-4010	11 2/1R		ρ	Ρ	11	3/1R	! P	PΡ	11	! X
	COMTRK-7033	11 2/1R	i P	Ş	P	11	1	1		1	;
05-2R-5300-5	CONTRK-7030A	11 2/2	1			f 1	1	1		1	i
05-2R-5300-6	COMTRK-24065X	2/1R	1 8	P	P	1 F	1	1		1	1
05-2R-5300-7	: COMTRK-24066X	11 2/2	ł			!!	3/2R	l P	PP	1.1	ł X
05-2R-5400-1	: COMTRK-4003	11 2/2	1			11	3/1R	; P	P P	11.	; X
05-2R-5400-2	: CDMTRK-4003A	11 2/1R			P	H	3/1R	Į P	p p	1.1	! X
05-2R-5411-1	: COMTRK-4030	11 3/1R	; P	þ	P	1 1	1	į		5 1	t i
05-2R-5411-2	COMTRK-4029	H 3/1R		þ	P	11	1	i		\$ 1	1
05-2R-5412-1	COMTRK-4032	11 3/1R		P	P	1 3	1	1			:
05-2R-5412-2	CONTRK-4031	3/2R	; P	P	P	1 1	1	i		· · · · · · · · · · · · · · · · · · ·	1
05-2R-5415	: COMTRK-4047		1			11	1	ì		i	i
	COMTRK-4048	11 3/3	i			1 1	1	ļ		!	1
	COMTRK-4049	11 3/3	;			; ;	1	1			!
	}	11	1			11		!		1 1	i

IDEN	TIFIERS	11	Ni	ISA			!!		I	0A 1	RECOM	MENDATIONS	ł 	
nasa FMEA NUMBER	: IOA : ASSESSMENT NUMBER			SC	REE	NS C		CRIT HW/F	1 S	_	NS C	(SEE LEGE		: ISSUE
:=========)5-2R-5415	== ===================================	= }	3/3	:=== !	===	===:	; ; : ; ;	/	:	===:		====================================		:
JO EN UTIO	COMTRK-4051	11	3/3				11		į			1		Į.
	CONTRK 4052		3/3						!					!
		11	3/3	i i			11		1			1		1
	COMTRK-4053		3/3	i			!!		i t			1		1
	COMTRK-4054	 	3/3	i i			11		•			• !		į
	1 COMTRK-4055	11	3/3	;)			11		1			1		1
	: COMTRK-4056			•			11		1			3 1		1
	COMTRK-4057	11	3/3	i !					1			1		1
	: CONTRK-405B	11	3/3	•			11		į 1			i 1		1
	: CDMTRK-4059	11	3/3	i			11		i			1		1
	: CDMTRK-4060	11	3/3				11	/	i			<u>i</u>	j.	I
	CONTRK-4061	11	3/3		_	٠.	11	/	ì	-		i		i
)5-6PB-22107-1	CONTRK-5501	11	2/1R	P	P	Ρ.	11		i	_		í		i
)5-6PB-22107 <i>-</i> 2	CONTRK-5502	11	3/2R	P .	. Р	P	11		i	F		i 1		X
	: COMTRK-5503	H	3/2R	P.	. P	P	11		ì	F		i 1		X
)5-6PC-22206-1	COMTRK-7501	11	3/1R	P	P	P	11	1	i			i		1
)5-6PC-22206-2	CONTRK-7501A	11	3/3				11	1	ì			3		1
)5-6PC-22212-1	: COMTRK-7502	1 1	3/3	i			! !		}			1		i .
)5-6PD-22701-l	: COMTRK-7023	1 1	2/1R		P	P			1			1		1
	! COMTRK-7024	! !	2/1R		Ρ	P	: :		1			1		1
	: COMTRK-7025	1 1	2/1R	P	5	P	1 1	· /	į.			1		1
05-6PD-22701-2	1 COMTRK-27043X	!!	3/3	_			1 1	1	1			La grande		1
)5-6PD-22702-1	COMTRK-7506	1 1	2/1R	P	þ	Ρ	1 1	1	ì			1 5	•	1
05-6PD-22702-2	: COMTRK-7506A	!!	3/3	1			; ;		1			1		1
)5-6PD-22703-1	: COMTRK-27507X	11	3/3	}			1 1	1	l			! .		;
05-6PF-22401-1	COMTRK-7017	11	3/1R	P	P	P	1;	•	;			1		1 .
)5-6PF-22401-2	: COMTRK-27064X	1 1	3/3	ŀ			11	1	1			; t		i
05-6PF-22402-1	COMTRK-7503	11	3/1R	٢	P	P	11	1	1			<u> </u>		}
05-6PF-22402-2	: CDHTRK-7503A	1 1	3/3	!			!!	1	1			t E		ì
05-6PF-22403-1	COMTRK-7505	11	3/3					1	1			:		! •
05-6PG-21001-1	: COMTRK-2501	11	3/3				11	1	!			! !		1
	: CCMTRK-2502	11	3/3	1			; ;	1	ţ			j 1		}
05-6PG-21001-2	1 COMTRK-2503	! !	3/3			-	1 1	1	}			!		I 1
	: COMTRK-2504	!!	3/3	.			1 1	1	•			e T		:
05-6P6-21002-1	CONTRK-2505	1 1	3/3				1 1	1	i i			ì		1
		1;	3/3	ł			1	1	1			1		Ţ
05-6PG-21050-1	CONTRK-2507	1 1	3/3	}			; ; 1 i	1	;			!	•	Ĭ
05-6F6-21050 - 2	: CONTRK-2508	11	3/3	l t			1 1	1	1			F b		1
05-4P6-21050-3	CONTRK-2509	Н	3/3				;;	1	!			1		1
05-6P6-21051-1	COMTRK-2510	11	3/3	l			11	1	i I			}		1
	CONTRK-2511						1 1		1			1		I
	COMTRK-2512	11					11		;			ŧ 1		1
	CONTRK-2513	11	3/3	!			!!		1			1		1
05-6P6-21 2 00-1	CDMTRK-1519	11	3/1R	Р	NΑ	P	! ;		1					!
05-6PG-21200-2	COMTRK-1520		3/1R			P	1 1		! i			!		<u> </u>
05-6P6-21201-1	: CDMTRK-1526		3/1R			F	1 1		:			i		; !
05-6PG-21201-2	COMTRK-1523		3/1R			P			1			1		!
05-6PG-21202-1	COMTRK-1525	11	3/1R			P	11		!			1		!
05-6PG-21203-1	; COMTRK-1527	11	3/1R		NA		!!		;			1 1		1
A7-0L0-117A7-1	COMTRK-1528	11	3/1R		,,,,	P	11		!			•		!
	i GORTHUNGTINGO	11	97 IN	: 1	111	' '	11					•		

IDE	NTIFIERS		IASA	; ;	IDA RECOMM	ENDATIONS *	
NASA FMEA NUMBER	l IDA LASSESSMENT NUMBER	11 HW/F	1 A B C 1	HW/F	SCREENS S		ISSUE
05-6PG-21203-2	COMTRK-1529	11 3/3	1	1 /	: : : : : : : : : : : : : : : : : : :		
ar inn 51561 (! CONTRK-1530			1 /	i i		1
05-6P6-21204-1	COMTRK-1531 COMTRK-1532	11 3/1R 11 3/1R		$\frac{1}{1}$ I	! !		į
05-6PG-21205-1	CDMTRK-1533	11 3/1R		1 /	!!!		!
03-010-21203-1	: COMTRK-1534	11 3/1R		1 /	1 1		:
05-6FG-21205-2	: CONTRK-1535	11 3/1R		1 /			1
	COMTRK-1536	11 3/1R		1 /	}		1
05-6PG-21211-1	: COMTRK-1537	11 3/2R	IP NAP	1 /	1 1		!
	CDMTRK-1538	11 3/2R		1	1		1
05-6PG-21211-2	COMTRK-1539	11 3/2R	• • • •	1 /	! !		!
	COMTRK-1540	11 3/2R		1 /			i
05-6PG-21212-1	: COMTRK-1513	11 3/2R		$\frac{1}{1}$	i i		i
	COMTRK-1514	11 3/2R 11 3/2R			i !		1
	: COMTRK-1515 : COMTRK-1516	11 3/2R	• • • • •	1 /	!!!		!
	COMTRK-1541	11 3/2R	• • • •	1	;		1
	: COMTRK-1542	11 3/2R	• • • • •	1 /	1		1
05-6PG-21212-2	COMTRK-1543	11 3/3		1 /			Į,
y o 313 21212 2	COMTRK-1544	11 3/3		11 /	!		1
05-6P6-21213-1	COMTRK-1545	11 3/2R	P NA P	1 /			1
	: CONTRK-1546	11 3/2R	P NA P	11 /	1		1
	! COMTRK-1547	11 3/2R	P NA P	1 1	;		ł
	: CONTRK-1548	11 3/2R	IP NAP	11 /	;		1
05-6PG-21214-1	: COMTRK-1511	11 3/2R		1 /	1		1
	: COMTRK-1512	11 3/2R		1	1		
	COMTRK-1549	11 3/2R			1 1		i .
** 155 51515 1	COMTRK-1550	11 3/2R			; ;		i
05-6PG-21215-1	! COMTRK-1551	11 3/2R		/ /	1 1		;
05-6PG-21215-2 05-6PG-21215-3	: COMTRK-1552 : Comtrk-1553	11 3/2R 11 3/3			!!!		!
05-6P6-21216-1	1 CONTRK-1517	11 3/2R		1 /	;		
VJ 510 11210 1	CONTRK-1518	11 3/2R		i /			!
	COMTRK-1554	11 3/28		11 /	!		ţ }
	CONTRK-1555	11 3/2R	P NAP	1 /	;		i
05-6P6-21216-2	COMTRK-1556	11 3/2R		11 /	;		i
	: COMTRK-1557	11 3/2R		H /	1 1		i
05-6P 6- 21217-1	: COMTRK-1509	11 3/2R					1
	CONTRK-1510 ,	11 3/2R			;		i
	COMTRK-1558	11 3/2R			i i		i
AE /DC 31331 1	CONTRK-1559	11 3/2R		$egin{array}{cccc} eta_i & I_i & I_i \end{array}$	1 1		!
05-6P6-21221-1	; COMTRK-1560 ; COMTRK-1561	11 3/2R 11 3/2R	* *		1		1
05-6PG-21221-2	: CONTRK-1562						, !
AR DIS TITEL T	: CONTRK-1563	11 3/3			}		1
05-6P6-21223-1	1 COMTRK-1564	11 3/2R		11 /		,	:
	CONTRK-1565	11 3/2R	1	8 /	1		i
05-6PG-21223-2	COMTRK-1566	11 3/3	1	11 /	Į į		i
	: CONTRK-1567	11 3/3	ĭ	11 /	1		i
05-6P6-21224-1	: COMTRK-1568			11 /			1
	<u> </u>	11		1 1	}		!

; IDENT	FIERS	11	N	IAS	iΑ			<u> </u>	 	IOA RECOM	MENDATIONS +	
I NASA I FMEA NUMBER	I IDA I ASSESSMENT NUMBER				SC A	REEN B	VS C		CRIT HW/F	SCREENS	OTHER (SEE LEGEND CODE)	ISSUE
: 05-6PG-21224-1	COMTRK-1569	11	3/2R	1	P	NA	P	1	. /	i !		1 1
05-6PG-21225-1	: COMTRK-1570	i !	3/2R	I i	P	NA	P	5	1	1	}	;
1	COMTRK-1571	1 1		1	P	NA		1		i		i i
: 05-6PG-21226-1	: COMTRK-1572	1 1		ì		NA		1		•		: :
1	CONTRK-1573	11	3/2R	;	P	NA	٩	1		,	,	; ;
1 05-696-21226-2	CDMTRK-1574	11		í				1		i 1	i !	; ; ; ,
1 45 400 04007 1		11	3/3 3/2R	i	D	NA	6	1		1	ι 1	! ! ! !
: 05-6P6-21227-1 : 05-6P6-21227-2	COMTRK-1576 CONTRK-1577	11	3/2n	1	г	H	r	!].= /	! !	l I	, , ; ;
: 05-6P6-21228-1	1 CONTRK-1577	11	3/2R	i	Р	NA	P	į	. /	1	' !	[
!	CDMTRK-1506	11	3/2R	-	-	NA		ļ			!	! !
1	COMTRK-1507	1 1	3/2R	1	P	NA	P	1	1	!	! !	!!!
1	: CONTRK-150B	[]	3/2R	1	P	NA	P	!	1	!	}	! !
1	COMTRK-1578	;;	3/2R	ĭ	P	NA	٢	1		1	! •	; ;
-	1 COMTRK-1579	11	3/2R	ì	P	NA	P	I	/	1	1	1 1
1	: CDMTRK-1580	1 1	3/2R			NA		ļ		1	 	}
1	: COMTRK-1581	11	3/2R		_	AA	P	1				
1 05-6P6-2122 8- 2	COMTRK-1582	11	3/2R	!	F	F	P	!	•	1	1	i i
1	CONTRK-1583	11	3/2R	;	۲	+	P	;		i	i I	i i
	COMTRK-1584	11	3/2R	i	r	F	P P	1		i	i i	; ;
1 05-6P6-21229-1	COMTRK-1585 COMTRK-1501	11	3/2R 3/2R	•	P	r Na		1		!	! !	· ·
1 03-019-21227-1	1 COMTRK-1502	11	3/2R		p	NA		1		1	• 1	
!	CONTRK-1502	!!	3/2R	•	•	NA		i		}		! !
! !	CONTRK-1587	11	3/2R		P	NA		!		1	• •	; ;
05-6PG-21230-1	COMTRK-1503	11	3/2R	3	P	NA	p	!	1	1	! •	1
1	: CONTRK-1504	: :	3/2R	;	P	NA	P	į	1	!	1	
Į.	: COMTRK-1588	; ;	3/2R	;	P	NA	P	i		1	!	: ;
<u>;</u>	CONTRK-1589	; t	3/2R			NA		1		1		
1 05-6PG-21500-1	: CDMTRK-1610	1 1				NA		;		¦		; ;
1	COMTRK-1612	11	3/1R			NA		;		i .	i I	i i
: 05-6P6-21500-2	COMTRK-1611	11	• • • • • • • • • • • • • • • • • • • •				P P	;		i 1	l I	! I
i Line industral	COMTRK-1613 COMTRK-1069	1 1				F NA		1		1	! !	; ; ; !
: 05-6P6-21501-1 : 05-6P6-21501-2	: COMTRK-1070	1 1				NA		:		!		
+ 05-6PG-21502-1	CDMTRK-1608	11				NA		!		1	· !	}
1 00 010 11301 1	1 COMTRK-1609	11				NA		į			!	! !
: 05-6PG-21503-1 -	COMTRK-1631	11				NA	P	i		1		i !
1	: COMTRK-1632	i i	3/1R	ļ	P	NA	P	;	1	!	!] [
1	: COMTRK-1635	1 1	3/1R	;	Ρ	NA	P	į	1 /	1	!	! !
1	1 COMTRK-1636	; ;				NA		i		· ·	-	; ;
: 05-6P8-21505-1	COMTRK-1633	11				NA		!				: :
i i	CONTRK-1634	!!				NA		. !				i i
1 05-6PG-21507-1	COMTRK-1606	11				NA		1		i 1	; ;	; ; 1 ;
) AE (NE 54565)	COMTRK-1607	11				NA NA		!		1	i I	• i
05-6PG-21509-1	1 COMTRK-1629	: 1				NA NA		1		1	i I	; ;
; 1 05-6PG-21804-1	CDMTRK-1630	11		1	٢	:171	'	1			! !	 }
: 05-6PG-21804-1	CONTRK-1030	11		1				1			!	,
: 05-6P6-21815-1	: COMTRK-1814	11		-	p	NA	P	i		t t		
	1	i i		!				I		!	!	; ;
		:==	******	:::	:::	====	===	==:				28237322

IDENT:	IFIERS		N	ASA	·		11	·	IOA RECOM	TENDATIONS *	
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	11		1 A	CREE B	NS C			SCREENS	OTHER (SEE LEGEND CODE)	ISSUE
05-6PG-21315-1	: COMTRK-1615	11	3/2R		NA	P	1	1	1	,	
05-6PG-21825-1	: COMTRK-1616	1 1				P	i		•	1 1	
	: COMTRK-1518	1 1				P	1		I I		
	: COMTRK-1620	; ;				P	į		} -		
	COMTRK-1622		3/2R	} F	P	P	1		:		i
05-696-21825-2	COMTRK-1617	11					1	. /	; 1	•	
	COMTRK-1619			i			- i :	i /	i 1	i I	i •
	1 COMTRK-1621	- 11		i 1			1	; /	i 1	1	; !
AF 188 84875 1	COMTRK-1623	11	3/3	i 			1	i /	i 1	[[! !
05-6P6-21835-1	COMTRK-1624	1 1	3/2R	; ;	, ρ	Ρ	1		i ī	1 ,	! !
	COMTRK-1625	11	3/2R	i ! {	, р	Р	1		i ī	; ;	
	CONTRK-1626					r P	1	• •) 	i I	! !
AE /DE 3107E 3	CONTRK-1627	11		! [}		ŗ	!		ī ī	r I	: •
05-6PG-21835-2	: CDMTRK-1628 : COMTRK-1068A	11		1	P	P	!		i i	î 1	! !
05-6PG-22000-1 05-6PG-22000-2	: COMTRK-1068	11		i [Г	•	,		, , p	! ! !	. X
05-6PG-22000-3	: CDMTRK-1067	11		!	P	P	1		, , , , !	: L	
05-6P6-23501-1	: COMTRK-1590	11				, P	- ;		!	: 1	!
. (3-010-13301 1	1 CONTRK-1591	11				P	!		, !	, } !	
05-6P6-23501-2	COMTRK-1572	11				P	1		!	! !	1 X
49 310 133VI I	+ COMTRK-1573	: 1				P	1		!	 ! !	X
05-6PG-23502-1	: CDMTRK-1594	: :				P	:			· - }	1
. 00 5/0 10001 1	: COMTRK-1595	11				P	}		!) }	
: 05-6PG-23528-1	CONTRK-1597	11		; [N/	P	1	1 /	1	¦	! !
05-6PG-23528-2	COMTRK-21075X	1 }	3/2R	: 1	N/	P	1	. /	!]	l
	: COMTRK-21075X	; ;	3/2R	1 1	N/	P	1	1 /	!	}	}
05-6P6-23529-1	: COMTRK-1598	1 1	3/2R	1 8	, N	P	1	1	1	1 1	i
	: COMTRK-1599	} !	3/2R	1 1	o NA	P	1	1 /	1	1	i i
05-6PG-235 29- 2	1 COMTRK-1600	1 1	3/2R	; ;	F	Ρ	i	\	!	1	1
}	: COMTRK-1601	1 1	3/2R		F	P	1		1	l F	1
05-6P6-23530-1	COMTRK-1602	1 1				P	ì		1	1	! !
	: COMTRK-1603	1 1				P	ļ		1	-	}
05-6P6-23531 - 1	CONTRK-1604	1 1				F	i			; ;	i
	: COMTRK-1605	1 1				9 4	1		1		i
05-6PH-24800-1	COMTRK-11001	11				P	1		i i	•	i
	COMTRK-11002	11				P	1		i	i 1	i •
	: COMTRK-11003	!!				P	!		i	i 1	i 1
	1 CDMTRK-11004	11				A P	1		IP NAP	1 ! 1	i I X
NE / DIV 34000 5	: CBMTRK-11007	11			143	1 6	!		ir AMir T	1 å 1 .	1 A.
1 05-6PH-24800-2	COMTRK-11009 COMTRK-11006	!!			p	P	!		1	1 I	r 1
1 05-6PH-24800-3	CDMTRK-11008	11					1		1	1 <u>{</u>	1 !
: 05-6PH-24800-4 : 05-6PH-24800-5	1 COMTRK-11010	11			r	ľ			!	· ·	1
05-6PH-24801-1	: COMTRK-11003	11			рр	þ	1			t 1	} !
, vo vih 440VI I	CDMTRK-11501	11				,	1				I E
, 05-4PH-24803-!	CDMTRK-1537	; ;			р	Р	1		1	; !	1
i og gin kibad i	: COMTRK-1638	: 1				P	1		1		:
: 05-6PH-2 48 05-1	CDMTRK-1041					P	ì		1	!	}
05-6PH-24805-2	CDNTRK-1042	11				P			1	; 1	t E
05-6PH-24910-1	CDNTRK-2012	1				Р	1		1	}	r i
	1	1 1		;	-		ŀ		1	; \$; i
; = 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	53335555555555555555555555555555555555	===	::::::::::	===	====	===	==	=======			

; IDENTI	FIERS	11	 N	AS	 A		 } !!	:		10	 А R	ECOM	MENDATION	S #		 ;
; NASA ; FNEA NUMBER	I IDA : ASSESSMENT NUMBER			!		EENS B C				_		NS C		OTHER EGEND CODE)	ISS -	UE
; 05-6PH-24825-1	: CDMTRK-4046	-) - -	3/1R	!]	P	PP	, ;	1	1	, , ,			ļ		ì	;
: 05-6PH-24825-2	COMTRK-4046A	11	3/1R	;	F	PP	}	I	1	1			;		1	į
1 05-6PH-24825-3	: COMTRK-4045	: :	3/1R	1 1	P	p p	,	i	1	:			ł Į		;	i
: 05-6PH-24830-1	COMTRK-23032X	11	3/1R	1	P	PF		¦	1	i			1		1	1
: 05-6PH-24830-2	: CBMTRK-23033X	; ;			_	PP		1	1	!			1			;
: 05-6PH-24830-3	: COMTRK-3015	11		1		P F		1	/	;					i	i
: 05-6PJ-213015-1	: CONTRK-3502	11		; ;		NA P		1	1	:					i 1	í
	CONTRK-3503	11				NA F		-	,	i I			i 1		1	E I
1 05-4PJ-213016-1	COMTRK-3504	11		1	-	NA P		1	1	i 1			1		1	1
 	COMTRK-3505	11		1		NA F		1	,	1			1 !		1	:
: 05-6PJ-213018-1	CONTRK-3518 Contrk-3519	11		!		NA F		1	,	! !			!		!	!
; - 1 05-4PJ-213019-1	: CONTRK-3508	11	3/2R	•		NA P		1	1	! !			!			:
; V3-4FJ-213V17-1	1 CONTRK-3509	11			-	NA F		1	,	! }			!		}	ţ
05-6PJ-213020-1	: CDMTRK-3504	11			_	NA P		1	,	!				-		}
1 00-050-212020-1	: COMTRK-3507	1 1			•	NA F			1	1			1		1	ì
!	COMTRK-3522	11		:		NA P		1	1	!			1		1	1
! !	COMTRK-3523	::		;		NA F			1	1			1		;	;
: 05-6PJ-213021-1	COMTRK-3520	11	3/2R	!	P	NA P	•	1	1	ţ			1		;	!
}	COMTRK-3521	1 1	3/2R	!	P	NA F	,	1	1	; ;			}		!	į
: 05-6PJ-236002-1	: COMTRK-3021	11	2/2	ì			ļ	1	1	\$ 1			I		1	:
: 05-6PJ-236002-2	: CDMTRK-3020	1	3/2R	i Y	P	NA F	•	1	1	į 1			!		i i	į
: 05-6PJ-236005-1	COMTRK-3510	H				NA P	• ¦	1	1	1			1	•	-	1
1	EDMTRK-3511	; ;	3/2R	1	P	NA F		1	1	}			1		1	1
1	: COMTRK-3512	! !	3/2R	1		NA F		1	- /				i		1	
1	: COMTRK-3513	3 5		-		NA F		1	1	1 1			!		;	ì
1	COMTRK-3524	11				NA F		1	/				1		1	i
!	: COMTRK-3525	11		-	-	NA F		1	<i>}</i>	1			i		i	i
	CONTRK-3526	11				NA F		1	1	i •			i		1	1
1 10 101 071001 4	: COMTRK-3527	!!				NA P		1	1	i I			1		1	
: 05-6PJ-236006-1	1 CONTRK-3514 1 Contrk-3515	11				NA F			1	! !			!		!	
1 1	1 CDMTRK-3516	11				NA F			1	; }						,
1	COMTRK-3517	11				NA F			1				!			
1 05-6PK-20101-1	CONTRK-8531	11		1	•	.,, 1		1	2/1R	P	۶	P	1 1		;	;
1 05-6PK-20102-1	: CDMTRK-8533	11		1					2/1R		P	P	1 1		; X	j
: 05-6PK-20201-1		11		1				1	2/1R		P	P	1 1		i X	i
1	: COMTRK-8506	Н	3/3	ļ				1	1	1			1 1		1	i
1	COMTRK-8511	!!						ļ	2/1R	P.	P	P	1.1		1 %	. 1
1	COMTRK-8512	1 1 1 1		ì				;	1	ŀ			1		1	ţ
1	COMTRK-8517	11		1				;	2/1R	P	P	P	1 [1 1	
	CONTRK-8518	11		1					/	i.	_	_	1		1	i
	1 COMTRK-8519	!!		1				1	2/18	; P	P	Ρ	1 1		! !	
1	COMTRK-8523	11		1				1;	/	;			i		;	
	COMTRK-6524	11						1	l nun	; ; =	n	r.	i		i 1 2	
1 05-6PK-2020Z-1	COMTRK-8507	11		i				1	2/1R	1 F	ì	٢	1 1		1 X	
1	CONTRK-8508	11		í					/ 2/1R	1 1 p	ø	Ď	1 1		' ! X	,
1	CONTRK-8509		3/3	1				i i 	271K	: r !	٢	ſ	!		, ,	. !
i	COMTRK-8510 COMTRK-8513	ii. H		. I }				1 1 1 1 1 1	2/1R	F	P	р	1 1		i Y	
i I	i CONTRA_BA19	11		!				; 1 ; 1		. , 	•	,	1		!	!
1			. 35255	:==	===	:===:	===:	 : 3:	======	====	===	====		**********	=====	====

IDEN	ITIFIERS	11	N	ASA					IDA	RECON	MENDATIONS +	
NASA FMEA NUMBER	IOA ASSESSMENT NUMBI	ER II	HW/F	I SC	8	C	CRIT	1 1	A 8	-	: OTHER ! (SEE LEGEND CODE)	I ISSU
======================================	:==;==================================	;;=== ;;		==== ; ;	===	====	;;===== /	:= ; =: 			 	}
	: CDMTRK-B515	11		!			2/1R	11	P F	P	1 1	! X
	CONTRK-8516	11		!			1 1	1			1	1
	CONTRK-8520	11		!			1 /	1				!
	CONTRK-8521	11		, !			1 2/1R	: : :	p p	р		, X
	: CDMTRK-8522	11		!			11 /		·	•	1	1
05-6PK-20Z03-1	CDMTRK-8501	!!		!Р	Р			i				1
03 GIN 20200 1	: COMTRK-B502	11			P		3/3	;			1 1	; X
05-6PK-20204-1	CDMTRK-8503	11	3/2R		P			į				1
VJ 'GI K 20204 1	CONTRK-8504	11			P		3/3	ì			! 1	. X
05-6PK-20402-1	CONTRK-8069	11			þ		: 2/1R		P	р	 ! [} X
VU QIR 2VTV2 1	: COMTRK-BO70	11			Þ		11 2/1E		P F) p	1 1	. X
	CONTRK-8071	11			P		11 3/3	!	•	•	1 1	. Y
	: CONTRK-8072	;;			P	-	11 3/3	į			1 1	. Y
05-6PK-20409-1	: COMTRK-BORA	11	2/2	1 1	,		3/3	!			!	!
	1 COMTRK-8086A	11		1 ;			11 /	1			1	•
05-6PK-20409-2	. ==	1 6		; i			:))	p p	a	; ; •	; ; ;
05-6PK-20501-1	COMTRK-8077			1					r r PF	, b	1 <u>1</u>	1 A
	: COMTRK-8078	11	** -	i			2/18 2/18	• •		'	1 6	: A
	CONTRK-B079	!!		i							1.4	. A
	CONTRK-8080	!!		i			11 2/15		PF		i &	1 A
	CONTRK-BOB1	11					11 2/1R		f F	' P	i 1	
	COMTRK-8082	11		i			11 2/1F			' '	1 1	; X
	: CDMTRK-8083	11					2/18			, ρ	i 1	l X
	CONTRK-8084	11		}			2/1F	(PF	P	1 1	; X
	: CONTRK-BO87	11		;				i				
	CDMTRK-8088	11	• • •	ì			H = I	1				i
	: COMTRK-8089	11		;			11 /	ł			•	ì
	CDMTRK-8090	11		1			H /	ł			ì	1
05-6PR-51050-1	: CDMTRK-4503			; P	Ρ	P	11 /	I			1	i
05-6PR-51050 - 2	: CDMTRK-4504	1 I		!			11 /	;			1	ī
05-4PR-51051-1	COMTRK-4510	! !		P	Ρ		H /	ı			i i	1
05-6PR-51052-1	: COMTRK-4511	11			P		!! /	1			1	I I
05-6PR-51053-1	: CDMTRK-4508	11		l P	P		11 /	ĭ			1	i
05-6PR-51053-2	1 COMTRK-4509	1 1	3/3	i			H /	1			!	;
05-6PR-5302 4- 1	CONTRK-4505	11	2/2	1			11 /	1			1	i
05-6PR-53024-2	: CDMTRK-4506	;;	3/1R	¦ P	P	P	11 3/3	1			1	!
05-4PR-53025-1	COMTRK-4507	[]	3/3	ĭ			H /	1			1	1
05-6FR-53055-1	: CDMTRK-4512	11	2/1R	; P	P	P	11 /	ł			1	1
05-6PR-53067-1	COMTRK-4513	- 11	2/2	1			11 /	1			1	I
05-6PR-54050-1	: CDMTRK-4501	; ;	2/2	l P	P	P	H /	ł			1	}
05-6PR-54050-2	L CONTRK-4502	11	3/3	ļ			11 /	!			1	1
06-6PK-20102-1	: COMTRK-8535	11	2/2	1			11 2/1 8	1	P F	P	1 1	i X
1.1.1	CONTRK-8004	11		! P	P	P	11 /	ţ			1	ŀ
	: CDMTRK-BO05	}				P	11 /	i			-	;
1.1.10	COMTRK-8004H	11		1			11 /	?			f 1	1 1
	COMTRK-BOOSH	1 1		[11 /	ļ) !	!
1.1.11.1	CONTRK-80041	11		}			11 /	!			1	:
	: CDMTRK-BOO5I	11		1			 /	1			!	ļ
1.1.11.2	CONTRK-8004C	! !		P	P	Р	:: <i>i</i>	i			1	ŀ
	1 CONTRK-8005C	11						!			!	!
	1 COULTRY SAASO	1 1	4 2 15		•	•	. /	•			•	

; IDENTI	FIERS	!!		ASA			;;	LITY	IOA RECOM	MENDATIONS +	
: NASA : FMEA NUMBER	: IDA : ASSESSMENT NUMBER		CRIT HW/F	: SC : A	REE	NS C		CRIT	SCREENS	OTHER (SEE LEGEND CODE)	ISSUE
1.1.12.1		11	2/2 2/2	1			11	<i> </i> <i> </i>			1
: : 1.1.12.2		11	2/2	! !			1 1	1	1 !	i 	
1	CDMTRK-8005K	!!	2/2	1			1 1	1	1	;	;
1.1.13	. ==	11		:			[]	/	1		1
! }	COMTRK-8005V	11	3/3 3/3	i			11	<i>l</i> 1	i :		i :
1.1.14	: CONTRK-8004W : CONTRK-8005W	11		! !			!!	, ,	!	- - ·	
, ! 1.1.15		H	2/1R	P	p	P	!!	i	· }		1
1	: COMTRK-8005D	1!	2/1R	P	P	P	! !		}	}	;
1 1.1.16		1 1	3/1R		P	P	11				;
I 1	: CDMTRK-8005L	11	3/1R		P	Р	11		1		i i
1.1.17	: CONTRK-BOO4M : CONTRK-BOO5M	11	3/1R 3/1R		P P	P	11		!	! !	1 1
; } 1.1.18	CDMTRK-8004N	11	3/1R		P	P	11		1	' 	
1 1.1.10	: CONTRK-BOOSN	11	-		P	P	11		-		1
1.1.19	CDMTRK-B004E	!!	2/1R		P	P	; ;	1	1	}	;
1	: COMTRK-BOOSE	11	2/1R	P	P	P	1 !	1	!		1
1 1.1.2	COMTRK-8004A	11	2/1R	I P	P	P	; ;	1	1		1
}	CONTRK-BOOSA	11	2/1R	; P	P	Ρ	!!	1	1		i i
1.1.20	1 COMTRK-BOOAY	11	3/3 3/3	i I			1 1	1	i :	! !	•
; 1.1.21.1	CDMTRK-8005Y CDMTRK-80040	11 11		! ! P	p	P	11	/	i i	,	
1 1.1.21.1	COMTRK-BOOSD	11	3/1R	i P	P	P	11	1			1
1.1.21.2	COMTRK-BOO4Z	!!	3/3	1			1 1	1	1	1	! !
Į.	: COMTRK-8005Z	11	3/3	}			! !	1	!	† 	1
1 1.1.22.1	COMTRK-8004AA	11	3/3	1			1 1	/			1
1	COMTRK-8005AA	11		;			1 1	1	j 1	i i	i i
1.1.22.2	COMTRK-800488 COMTRK-800588	11		i !			1 1	<i>i</i> 1	i ·	! !	!!!
1 1.1.23.1	COMTRK-8004P	11	3/1R	! P	P	Ρ	11	1	1		1
! 11112011	CDMTRK-8005P	11			P	P	11	1	1	!	}
1 1.1.23.2	! COMTRK-BOOAD	11			p	Р	1 1		1	,	[]
t i	: COMTRK-80050	1 1		F	ρ	7	1 1		1	! :	!
1 1.1.3	COMTRK-80045	11		1			11		•		t i
1 4 4 3	COMTRK-8005S	11		i 1			 -		1	i I	!!!
1 1.1.4	CDMTRK-8005T	11		1			11		1	! !	1
1 1.1.5	CONTRK-8004B	11		: P	P	p	11		1		[
	CDMTRK-8005B	11				P	!!	1	!		1
1.1.6	: COMTRK-8004U	11		!			! !		1		[]
[s	COMTRK-8005U	11		!		_	: :			1	1
1.1.7	COMTRK-BOOAR	11			P	p	11		i 1	i '	i i
; !	: COMTRK-8005R : Contrk-8004F	11		i 17 !	r	P			1	1 	1
1.1.8	CDMTRK-8005F	11		:			1 1			• • •	1
1.1.9	COMTRK-80046	11		; l			11		1	! \$	1
1	CONTRK-80056	; ;	2/2	•			; ;		;	ł	1
1.2.1	: COMTRK-BOO1E	; ;				P	Ш		•	1 1	i X
1	: CDMTRK-BOOZE	11		! P	P	P	1 1		1	1 1	1 X
1	1	!!		i		-	; ;		i		

IDEN	VT IF IERS	::	N	ASA			 		10	A RECO	MME	NDATIONS +	
NASA FMEA NUMBER	I DA ASSESSMENT NUMBER			50 A	REE	NS C	-	CRIT HW/F	SC A	REENS B C	1	OTHER (SEE LEGEND CODE)	: ISSUE
::::::::::::::::::::::::::::::::::::::	:==;==================================	∓;; !!	3/2R	222 ! P	p	P	= i i ! !	 	; !		.		;
1.2.10	COMTRK-BOOSE	! !	3/3		•	•	;;	,	!		1	1	ì X
11111	CONTRK-8002M	11	3/3	;			11	1]			l	I X
	COMTRK-BOOSM	1 1		P	Ρ	P	; ;	1	}		i	1) X
1.2.11	CONTRK-8001N	11	3/3	!			11	1	!		1	1	! X
	: COMTRK-8002N	H	3/3	i i			1 !	1] i		1	1	i X
	CDMTRK-8003N	! !	3/2R	} P	P	P	11	1	ţ		ļ	1	l X
1.2.12	: COMTRK-8001D	! !		I I			11	1	i i		i	1	X
	: COMTRK-BOO2D	11		;			11	1	!		ł	1	! X
!	: COMTRK-B003D	1 1		! P	P	P	1 1	1	1			1	! X
1.2.13	: COMTRK-8001P	: :		1			Н	1			i	1	; X
1	: CDMTRK-B002P	11		}	_	_	11	/	:		i	1	; X
	COMTRK-BOO3P	11		! P	P	P	11				i	1	! X
1.2.14	: COMTRK-BOOIQ	11		i			11	/	i		i	1	1. X
	CONTRK-8002Q	!!		i In	п	n	11	',	i I		1	1	1 X
; , , , , , , , , , , , , , , , , , , ,	COMTRK-8003Q	11		; P	P	Р		1	i I		1	1	; X
1,2.15	: CONTRK-BOOIR : CONTRK-BOOZR			î F			11	•	t I		1	1	; A
i 1	COMTRK-BOOZR	11		і. ! Р	P	P	1 1		!		1	1	, , ,
1 1.2.16	COMTRK-8001S	!!		! !	1	1	11		: !		•	1	
(i, Z, iO)	: COMTRK-8002S	1 1		!			11		• !		:	1	 ! X
I 1	: COMTRK-9003S	1 1		! Р	Р	p	11		!		;	1	
1.2.17	CDMTRK-8001T	13		•		•	: :		1		,	1	1 1
!	: CDMTRK-8002T	1		:			- 11		}		1	1	1 X
• ! !	COMTRK-8003T	11		P	P	Р	! !		1		!	1	i X
1.2.18	: COMTRK-8001A) !		ļ			11	2/1R	ļ		ļ	i	l X
1 1	COMTRK-8002A	11	2/2	; i			1 1	2/1R	P	PP	ì	1	χ ;
1 1	: COMTRK-8003A	1 1	2/2	!			11	2/1R	! P	РР	Į I	1	i X
1.2.19	: COMTRK-8001U	1 1	3/3	j l			1 1	1	1		1	1	(X
1	: COMTRK-8002U	1 1	2/3	! #			11	1	i		i	1	ł X
i i	: CDMTRK-8003U	1 1		i P	₽	P	1 1		ì		;	1	X
1.2.2	: CDMTRK-8001	1 1		1			11					1	; X
1	: COMTRK-8002			}			11				1	1	l X
!	: CBMTRK-8003						11		ነ <i>የ</i>	P P	;	I .	i X
1.2.20	: COMTRK-BOOLV	11		i			1 1		i •			1	X X
1 1	COMTRK-8002V	1 1		i,		D	11		i I		i	<u> </u>	: A
1 : 1 7 7 1	CONTRK-8003V	11		i F	۲	7	11		i i		1	1	1 X
1.2.21	: COMTRK-8001B : COMTRK-8002B	1 1		1			[]			РΡ	•	1	1 1
í I	CDMTRK-8003B	1 		1 .			11					1	;
1.2.22	COMTRK-BOOLD	11		!			11			, ,		ĺ	X
! !: 2: 24	CDMTRK-8002C			•			1 1			РР		1	1 X
: !	CONTRK-8003C						11			рр	1	1	! X
1.2.23	: COMTRK-8001D	1		1			1 1			•	;	t k	χ ;
:	1 CONTRK-SOOZD	1		1			1 1			р р		1	; X
!	: SOMTRK-BOO3D	1		!			: 1			P P	i	1	: X
1.2.3	COMTRK-BOO1F	1 :		1			: :		ī ŧ		;	1	i X
i 1	: COMTRK-8002F	Į	3/3	1			}		1		1	1	; X
1	: CONTRK-8003F	13		l P	P	P	1 1		;		•	i	; X
1 1.2.4	: COMTRK-BOO16	1		1			1 1		1		1	<u> </u>	į X
1	1	1 3		i			! !		į		1		!

NASA FMEA NUMBER 1.2.4	I IDA I ASSESSMENT NUMBER		4	: SC	OCE		11	,						
1.2.4	'		HW/F	A	8	C C	1 (7	SC A !===	8	C	; ; =!:	OTHER (SEE LEGEND CODE)	: 155U8 : ::=====
	: COMTRK-BOO2G	-,, !!	3/3	<u> </u>			-,,	/	 				1	, x
1.2.5	: CDMTRK-B003G	1 1	3/2R	P	P	p	! ;	1	[1	1	; X
	: COMTRK-8001H	11	3/3	i i			1 1	1	1			1	1	; X
	: COMTRK-8002H	! !	3/3	1			11	1	!			į	1	; X
	: CONTRK-BOO3H	11	3/2R	P	P	P	11	1	ļ			1	1	i X
1.2.6	: COMTRK-BOOLI	11	3/3	i I			1;	1	j i			i	1	; X
	COMTRK-8002I	! !	3/3	!			; ;	1	1			i	1	; X
	: COMTRK-80031	11	3/2R	! P	P	Ρ	1 1	1	!			ł	i	; X
1.2.7	: COMTRK-BOOIJ	1 1	3/3	i			! !	1	1			•	1	! X
	: COMTRK-BOO2J	1 1	3/3	ì			11	1	1			•	1	; X
	: COMTRK-8003J	11	3/2R	l P	P	P	1 1	1	!			•	1	I
1.2.8	: COMTRK-BOOIK	11	3/3	1			11	/	1			•	i	i I
	: CDMTRK-8002K	11	3/3	} 	_	_	11	1.	:			•	1	i
	: COMTRK-BOO3K	11	3/2R	! P	P	Ρ	11	/				•	1	i
1.2.9	CONTRK-8001L	!!	3/3	;			11	/	i •			i ,	1	i
	: CDMTRK-BOOZL	; ;		i	_		- 11	,	i 1			•	1	1 K
	CONTRK-BOO3L	11		; F	P	P	11		i ! P	D	τ	i ;	1	: A
2.1.1	: CONTRK-BOOB	11		j t			11		1 F	r o	г Б	1	i 1	1 A
	: CONTRK-BOO7	1 1		i I			11	2/1R	і Г 18	P	ר ס	1	1	1 Y
	COMTRK-8010	1 1) T			! !	2/1R 2/1R		p	ρ	!	1	: X
2.1.1.1	COMTRK-8011 COMTRK-8024C	11		1 1			[]	2/1R		, P	p	1	1	Y
2.1.2	CONTRK-BOORA	1 t		1			11	2/1R		P	þ	1	•	1 7
2.1.2	CDMTRK-8009A	!!		: !			11	2/1R		p	P	į	i	X
	CONTRK-8010A	11		!			11	2/1R		p	P	;	1	: X
	: CDMTRK-B011A	11		:			! !			p	P	1	1	i X
2,1,3,1	: CONTRK-BOOBB	11					11	2/1R		P	P	1	1	; X
2141011	CONTRK-8009B	11					11	2/1R		P	P	i i	1	1 1
	CDMTRK-8010B	11		1			11	2/1R	P	Ρ	p	i	1	; X
	COMTRK-8011B	1 1		t †			1 1	2/1R	; P	P	P	1	1	l X
2.1.3.2	: CDMTRK-80080	11	3/3	1			! !	1	!			i) i
	CDMTRK-B0090	1 !	2/2	!			! !	2/1R	ļ P	P	P	Į,		1
•	: COMTRK-80100	1 1	3/3	} !			-	1	l I			Į		}
	COMTRK-BOILD	1 1	3/3	1			1 1 1 1	1	1			F		1
2.1.4	: COMTRK-800BL	11	3/1R	i P	P	Ρ	! ! ! !	1	i			Ţ		i
	: CDMTRK-8009L	11					11		P	P	P	1		;
	: CDMTRK-8010L	!!				þ	11		i			i		;
	COMTRK-8011L	1 1		P	P	₽	1 1		1			;		
2.1.5	: CONTRK-BOOSC	11		1			1 1			P	P	1	1	i I
•	: COMTRK-BOO9C	1 1		1			! !			Ρ	P	•	1	1 %
	! CDMTRK-8010C	11		!			1 1			P	P		1	i X
•	COMTRK-8011C	1 1		•			11			2	P		1	X
2.1.5.1	CONTRK-B033	; ;		;			П			₽	P	!	1	! X
	COMTRK-8035	1 1		;			1 1			P	P	1	1	; ,
	COMTRK-8037	11		i			- ! !			P	Р	+	1 4	; X
	COMTRK-8039	1 1		ξ 1			1 1			P	0		1	1 X
2.1.6.2	COMTRK-8034	1 1		i			- ! !			P	P	•	1	1 X
	: COMTRK-BO34	11		í			! !				P P	•	1	; X
	CONTRK-8038	11		i z	ē								<u>.</u>	i A
	: CDMTRK-8040	1 1		:					: r :	1,	۲	1	Ĺ	1 A

I DE	NTIFIERS		ASA	11	IDA RECOM	MENDATIONS +	
NASA FNEA NUMBER	; IDA ; ASSESSMENT NUMBER	11 CRIT	SCREENS	:: CRIT		(SEE LEGEND CODE)	I ISSUE
2.1.6.3	: COMTRK-28383X	11 3/3		11 /			!
	: COMTRK-8033B	11 3/3	; 1	H = I	1	1	i X
	COMTRK-8035B	11 3/3	i	H = I	I	1 1	ł X
	: COMTRK-8037B	11 3/3	1	$\Pi = I$	1	1 1	ł X
	: COMTRK-BO39B	11 3/3	}	11 /			1
2.1.6.4	1 CONTRK-28384X	11 2/2	}	11 2/1R		1 1	X
	: COMTRK-BO33A	11 2/2		11 2/1R		1 1	1 X
	CONTRK-8035A	11 2/2	i 1	11 2/1R		i . ! .	;
	: CDMTRK-8037A	11 2/2	1	11 2/1R 11 2/1R		1 1	. A
2.1.7	COMTRK-8039A Comtrk-8014	11 2/2	1	11 2/1R		: 1 ! †	i Ŷ
2.1.7	COMTRK-8015	11 2/2	!	11 2/1R		!	, , ,
	CDMTRK-8016	11 2/2	1	11 2/1R		1 1	X
	; CDMTRK-8017	11 2/2	1	11 2/1R		! 1	 X
	COMTRK-8018	11 2/2	1	11 2/1R		1 1	ł X
	COMTRK-8019	11 2/2	1	11 2/1R	I P P P	1 1	; X
	L COMTRK-8020	11 2/2	I I	11 2/1R	! P P P	1 1	i X
	: COMTRK-8021	11 2/2	F E	11 2/1R	P P P	1 1	l X
	! COMTRK-8022	11 2/2	1	11 2/1R	PPP	1 1	X
	: COMTRK-B023	11 2/2	!	11 2/1R	1 P P P	1.1	I X
	COMTRK-8024	11 2/2	1	11 2/1R	IPPP	1	X i
	CONTRK-8025	11 2/2	<u> </u>	11 2/1R		1 1	X
2.2.1	: COMTRK-8008D	11 2/2	1	11 2/1R		1 1	; X
	CONTRK-BOO9D	11 2/2		11 2/1R		1 1	: X
	: CDMTRK-8010D	11 2/2	1	11 2/1R		1 4	, X
	: COMTRK-BOILD	11 2/2	i	11 2/1R		i 1	; X ; X
2.2.2	COMTRK-BOOSE	11 2/2	i	11 2/1R		! ! ! !	;
	COMTRK-8009E	11 2/2 11 2/2	i	11 2/1R 11 2/1R		i	1 X
	COMTRK-8010E	11 2/2	1	11 2/1R		1 ± 1 •	, v
2.2.3.1	COMTRK-8011E COMTRK-8008F	11 2/2	!	11 2/1R		1 1	ΙX
4.4.5.1	CONTRK-8009F	11 2/2	!	11 2/1R		! [. X
	CDMTRK-8010F	11 2/2	1			: 1	X
	COMTRK-8011F	11 2/2				: 1	; X
2.2.3.2	COMTRK-BOOBP	11 3/3	1	11 /	i i	: •	} •
	: CDMTRK-8009P	11 2/2	1	11 2/1R	IPPP	1	!
	: CONTRK-BOIOP	11 3/3	!	11 /	i i	1	ŀ
	: COMTRK-8011P	11 3/3	1	11 /	!	1	1
2.2.4	! CDMTRK-8008M		PPP	H = I	;	1	Ī
	: COMTRK-8009M		1	11 2/1R	PPP	1	,
	: CDMTRK-8010M		IPPP	11 /	ī	!	1
	: CDMTRK-8011M		I P P P	11 /	}		}
2.2.5	COMTRK-80086		!	11 2/1R		1 1	1 X
	COMTRK-BOO95	11 2/2	1	11 2/1R		1 1	i ă
	COMTRK-8010G	11 2/2	i	11 2/1R		1 1	1 X
221	COMTRK-80116	11 2/2	1	11 2/1R 11 2/1R		1 1	: A
2.2.6.1	CONTRK-8053 Contrk-8055	11 2/2	1	11 2/1R		•. !	!
	: CDMTRK-8055 ! CDMTRK-8059	11 2/2	1	11 2/1R		1	1
2.2.6.2	: COMTRK-8059 : COMTRK-8050	11 3/3	!			• •	!
4.4.0.4	; ;	11 3/3	1	11 /	1	, I	1
	1	1 1	1	11	,	'	

IDE	NTIFIERS	11		ASA	11			A RE	COM	MENDATIONS ±	
NASA FMEA NUMBER	: IDA : ASSESSMENT NUMBER	11	CRIT HW/F	SCREENS	11	CRIT HW/F	SC A	В	C	: OTHER {SEE LEGEND CODE) 	ISSUE
2.2.6.2	: COMTRK-8054		2/2		11			P	Р	1	ŀ
	: CDMTRK-8056	11	2/2	1	11	2/1R	P	Ρ	P	1 1	ł X
	: CDMTRK-9058		2/2	1	; ;	2/1R		P	P	i i	i
TO.	: CDMTRK-8060		2/2	•	[]) P	Ρ	P	1 1	X
2.2.6.3	: CDMTRK-28399X		3/3	1	1 1		ł				! !
	: COMTRK-BO53B		3/3	}	11		}			1	¦
	CONTRK-8055B		3/3	1	11		:				i ,
	: COMTRK-8057		3/3	<u> </u>	11			_		i	i 1
	CONTRK-8059B		2/2	1	11					į 1 <i>4</i>	i 1 v
2.2.6.4	CONTRK-28400X		2/2	i	11				P	1 1	¦
	COMTRK-8053A		2/2	i	11			P	ר מ	i 1	I 1
	: COMTRK-8055A		2/2	i •	11			P	Г		! !
	COMTRK-8059A		2/2 2/2	i	11			Г D	ם	\$ 1 4	: : X
2.2.7	CONTRK-8014A		2/2	1	11			P	r D	! !	 ! X
	: COMTRK-8015A : COMTRK-8016A	i i		1	11			p	1	; <u>;</u>	. ^ ! Y
	: COMTRK-8017A	11		1	11		 ! P	P	•	! 1	 ! Y
	: CONTRK-8018A	11		!	11			P	•	! 1	, , !
	CONTRK-B019A	1:		i i	11			Р	•	. <u>.</u> ! 1	 }
	CONTRK-8020A	11		! !	11			P	•	; . 1	 ¦ X
	COMTRK-BOZIA	11		· !	11			p	p	1 1	χ
	COMTRK-8022A	11		!	11			Р	P	1 1	: Х
	CONTRK-8023A	41		!	11			P	P	1 1	i X
	CONTRK-8024A	11		I 1	: I	2/1R		P	Ρ̈́	1 1	¦ X
	: CONTRK-8025A	! ;	2/2	1	1 1	2/1R	: P	P	P	1 1	ł X
2.2.8.1	: COMTRK-8050A	1 1	3/3	1	1 1	1	1			}	i i
	: CDMTRK-8054A	1 1	2/2	1	11	2/1R	1 P	ρ	P) t	i i
	: COMTRK-8056A	1 1	2/2	!	1 1	2/1R	; P	P	٩	1 1	X :
	: COMTRK-8058A	1 1	2/2	!	!!	2/1R	1 2	P	P	i I]
	COMTRK-8060A	! !	2/2	1	1 1		P	P	P	1 1	; X
2.2.8.2	: COMTRK-8053C	11	3/3	i i	; ;	1	1			\$ \$	i
	: COMTRK-BOSSC	11	3/3	1		1	1			t I	Į į
	: COMTRK-8057A			i i	; ;		•			3 7	i
}	: COMTRK-8059C	1 1		1	! !		1			1 7	! !
2.3.1	: COMTRK-BOOBH	11		1	1 1			•			
}	COMTRK-BOOTH	11		1	1 1			P	•	1	ł X
	: COMTRK-8010H	11		1	11			P	P	1 1	; X
	COMTRK-8011H	11		}	11			P -	P .	1 1	}
2.3.2	: COMTRK-8009I	11			11			۲	•	1 1	;
}	: COMTRK-80091	11		i	11			P	۲	1 1	}
	CONTRK-8010I	11		i 1	11			P	P	; . ! 1	i
, , , , ,	COMTRK-8011I	11		i 1	11			P P	•	; 1 ! 1	, , X
2.3.3.1	CONTRK-BOOBJ	1 1		I .	11			P	•	i . ! †	! . ₹ ! ¥
	: CDMTRK-8009J	1 1		1	11			P	•	; <u>i</u>	. A ! Y
	CONTRK-BO10J	11		1	11				•	1 <u>\$</u>	. A
	CDMTRK-8011J	; ; ; ;		1	11		; r	t	•	· •	
2.3.3.2	CDNTRK-8008D CDNTRK-8009D	11		1	1 1		! P	P	P	• •	
i 1	COMTRK-8010D	!!		!	11		 !	•	•	· !	1
j 1	CDMTRK-80100			}	11		:			•	1
1 1	i PhilippGATTA] ! } !		:	11		:			- ! !	<u> </u>
	·					222222	222:	:===:	====	-213133318333311123873	=======

ID	ENTIFIERS	11		AZA			11		10	A F	RECOM	MENDATIONS +	
NASA FMEA NUMBER	; IOA	11	CRIT HW/F	A	В	C	11	HW/F	: A	В	C	(SEE LEBEND CODE)	ISSUE
	====;=================================		3/1R			P	11	 -	, !			!	1
21011	COMTRK-BOOPN	1 :	2/2	1			11	2/1R	; P	P	P	!	1
	CONTRK-8010N	; ;		P	Ρ	P	11	1	1			ş ş	!
	: COMTRK-BOILN	1 :	3/1R	i P	P	P) ! !	1) }			Į.	!
2.3.5	COMTRK-8008K	: :	2/2	ŀ			3 } 1 1	2/1R	P	P	P	! 1	1 1
	: CDMTRK-8009K	11	2/2	i i			1 t	2/1R	P	P	Ρ	1.1	ł X
	: COMTRK-8010K	1 1	2/2	i			1 1	2/1R	l P	P	P	ŧ 1	; X
	: CDMTRK-8011K	} !	2/2	1			1 1	2/1R	l P	P	P	1 1	ł X
2.3.6.1	COMTRK-B045	11	2/2	į			;;		;			1	l
	COMTRK-8047	1	2/2	1					i i			}	}
2.3.6.2	: COMTRK-8046	11		i			! !		1			I I	1
	: COMTRK-8048	1		!			11		}				
2.3.6.3	COMTRK-28389X	11		i			11		}			1	1
	: COMTRK-BO45B	1 1		;			; ;		1			;	ŀ
	: COMTRK-8047B	11		!			П		1			1	1
2.3.6.4	: CDMTRK-28390X	1 1		i			1 1	2/1R	i P	P	P	1 1	ł X
	: CONTRK-8045A	1 1		ĺ				1	!			1	i
	: CDMTRK-8047A	1 1		i j			1 1		1			1	
2.3.7	: COMTRK-B014B	1 1		ļ			11	_	! P	ρ	P	1 1	1 1
	: COMTRK-8015B	l I		1			! !			₽	P	1 1	; X
	: CONTRK-80168	11		I			1 1			þ	۶	11.	; X
	: CCMTRK-8017B	1		1			1 1			P	P	11	1 X
	COMTRK-8018B	1 1		ì.			: 1 : 1			þ	P	11 .	i X
	: COMTRK-B019B	:		ŀ						P	Ρ		} X
	CDMTRK-8020B	1 1		ŀ			1 1			P	P	1 1	i X
	: CDMTRK-8021B	ţ		ì						Ρ	P	1 1	, X
	: CDMTRK-80228	;		ŧ			1 1			P	Р	1 1	į χ
	: CDMTRK-8023B		2/2	i			1 1			P	P	1 1	1 1
	COMTRK-8024B		2/2	į			1 1			P	₽		X
	: COMTRK-8025B		2/2	1			1 1		i P	P	۶) X
2.3.8.1	: COMTRK-8046A	;		!			1 1		i			t -	i
	COMTRK-8048A	- 1		;				1	}				i
2.3.8.2	COMTRK-8045C	1		i			11		ì				i ·
	: CDMTRK-8047C	3		1			!!!		1	-	-	i	, 7
2.4.1.1	CONTRK-B014C	1		i			3 1			9		1 1	i i
	CONTRK-8015C	1		i			1 1						; X
	CONTRK-8016C	1		i			1 1			P	P	1 1	i A
•	: CCMTRK-8017C	1		i			1 1			q		1 1	1 A
	CONTRK-8019C	:		i			11			n P		1 1	, X
	: CDNTRK-B020C	1		i			1			P		• •	1 A
: • •	CONTRK-8021C	:		i			; ; ; ;			P o		1 1	1 7
	COMTRK-BOZZC	!		i	-		1 1			. p		1 1	;
	! COMTRK-8023C	1		i •			1 1				•	i i	1 A
	: COMTRK-8025C	1		i			1			P P		i 1 ! •	i λ
2.4.1.2	: COMTRK-B014D	1		í			1			۲ و	•	1 1	t A
	: COMTRK-8015D	1		i						p		1 1	1 8
	: COMTRK-8016D	1 1		i ı			; ;			•		1 1	: X
	COMTRK-B017D	;		i			i					. i	: X
	: CONTRK-B019D	1		į ,			1					1 <u>1</u>	1 X
	: CDMTRK-B020D	i		i			1		F	ř	۲	1 1	1 A
	i I	ŀ	i	ŧ			i	i	i			ŧ	ŧ

I DE)	NTIFIERS		ASA		IOA RECOM	MENDATIONS *	
NASA FNEA NUMBER		II CRIT	SCREENS	II CRIT	SCREENS	OTHER (SEE LEGEND CODE)	: 155UE :
2.4.1.2		11 2/2		11 2/1R		1	, }
	: CDMTRK-8022D	11 2/2	1	11 2/1R	PPP	! 1	1 X
		11 2/2		11 2/1R		1 1	i X
		11 2/2		11 2/1R		1	! X
	·	11 2/2		11 2/1R		1 1	; X
2.4.2.1		11 2/2	-	11 2/1R		<u> </u>	;
		11 2/2		11 2/1R 11 2/1R		, † , (; X
		11 2/2		11 2/1R		1 1	. X
		11 2/2	! !	11 2/1R		' . ! 1	i X
		11 2/2	' !	11 2/1R		1	; X
		11 2/2	}	11 2/1R		1 1	ł X
	-	11 2/2	ŧ •	11 2/1R	IPPP	1	! X
	: CDMTRK-8023E	11 2/2	<u> </u>	11 2/1R	IPPP	1 1	ł X
	: COMTRK-BO24E	11 2/2	! •	11 2/1R	IPPP:	1 1	i X
		11 2/2	!	11 2/1R		1 1	ł X
2.4.2.2		11 2/2	7	11 2/1R		1 1	i X
		11 2/2	<u> </u>	11 2/1R		! 1	; X
	·	11 2/2	<u>;</u>	11 2/1R		1 1	; X
		11 2/2	1	11 2/1R 11 2/1R		i 1	i A 1 V
		11. 2/2		11 2/1R 11 2/1R		r 1. 1 3	, A
		11 2/2		11 2/1R		' <u>'</u> '	, X -
		11 2/2	•	11 2/1R		! 1	, ,,
		11 2/2	•	11 2/1R		1	łχ
•		11 2/2		11 2/1R		1 1	X i
		11 2/2		11 2/1R		1 1	! X
2.4.3		11 2/2	ŀ	11 2/1R	PPP	1 1	i X
	: COMTRK-8015G	11 2/2	1	11 2/1R	PPP	1 1	; X
		11 2/2	!	11 2/1R		1 1	} X
		11 2/2	ī	11 2/1R		1 1	: X
	CDMTRK-B019G	11 2/2	:	11 2/1R		1 1	; X
		11 2/2	: :	11 2/1R		.	1 X
		11 2/2 11 2/2	;	11 2/1R 11 2/1R		1 1	iλ
		11 2/2	! !	11 2/1R		! [Y
		11 2/2	! !	11 2/1R		· •	
	COMTRK-80256	11 2/2	I i	11 2/1R		1	 ! %
2.4.4.1		11 3/3		11 7	1	!	}
		11 3/3	1	11 /	1) 1	1
		11 3/3	I I	11 /	!		1
	: COMTRK-80211	11 3/3	:	11 /	1	1 1	¦ X
2.4.4.2		11 2/2	!	11 2/1R		1 1	! X
	: COMTRK-BO15H	11 2/2	:	11 2/1R			: y
		11 2/2	; ;	11 2/1R		. 1	; X
	CCMTRK-BOZIH	11 2/2	;	11 2/1R		1 1	! X
_ , ,	COMTRK-8024H	11 2/2	i 1		;	1	: À
3.1.1	COMTRK-8006	11 3/3	1 F		! !	! !	: !
7 1 9	: CONTRK-8007 : CONTRK-8004A	.11 3/3 .11 3/3	!	11 7	!	• }	:
3.1.2	אסטיסדאחומעני : !	11 3/3	1	1	, , ,	! {	· !
			•				

: IDENTI	F1ERS	 !	 ۱	IASA	::		IOA RECOM	MENDATIONS *	;
: NASA : FMEA NUMBER	IDA ASSESSMENT NUMBER				111		SCREENS	DTHER (SEE LEGEND CODE)	ISSUE
1 3.1.2	: CDMTRK-8007A	!!	3/3	1	[[1	[; ;
1 3.1.3.1	: CDMTRK-80068	! ;	3/3				1		1 1
!		; ;			! !		i		1
1 3.1.3.2		11			11) !		i i
		1 1			: :		i	i	i i
1 3.1.4		11			11		i 3	i 1	! ! !
1				i	11		i i	1 I	• ! ! !
3.1.5		; ; []		!	11		! !	1	 ! !
1 3.1.6.1		1 1		•	11		• •	! !	1 1
1 3:1:0:1		11			! ;		· }		: :
3.1.6.2		;;			1		1	1 1	
1 3.1.6.3		1 1		1	11	1	}		1 1
}	1 CONTRK-BO29A	! !	3/3	!	! !	1	!	!	! !
!	: CONTRK-BO31A	11	1		! !		{		;
1 3.1.6.4	1 COMTRK-28382X	1;	3/3		1 1		1	1 1	1 1
1		: :			11		1	! !	1 .
!		11	-	1	; ;		1	, !	i i
1 3.1.7		11			11		!	1	i i
·		11		i	11		i	i 1	1 1
3.1.8		11		i 1	1 1		1	l I	!!!
; 3.2.1		11		1	11		!	·	1 1
1 0.4.1		11		!	11		, }	! !	
1 3.2.2		11		1	11		1	, } !	: :
1		!!		1	1 1	1	1	1	i i
3.2.2.1			3/3	i i	; ;	1	1	! !	!
1 3.2.3.1	: COMTRK-BOOAN	!!	3/3	1	1		1	! ŧ	1
† 1		1		1	! !		1	1	! !
1 3.2.3.2		1 1		!	1		!	;	; ;
E T		11		i	1 1		; •	í :	i i
1 7 7 4		11		i 1	1 1		i 1	i I	1 1
1 3.2.4		11		1 1 3	1 1		!	<u> </u>	; ;
· •		: :		!	1		i	· · · · · · · · · · · · · · · · · · ·	1 :
1 3.2.5		11		}	1			} !	; ;
!				1	1		1	<u> </u>	}
!		1 1		1	ì	/	1	!	: :
1 3.2.6.1	COMTRK-8049	1 7	3/3	ĭ))	1	1	ī Ī	i !
† 1	COMTRK-8051	1		}	1		1	t i	1 1
1 3.2.6.2		11		1	5		I I	I i	1 1
3.2.6.3		;		-	1		!	!	i i
1	CONTRK-8049A	11		1	!		1	1	i i
170/	: COMTRK-8051A	1 1		; 1	1		i I	i I	1 1
3.2.5.4		1 1		i)	1		1	i :	1
; 1	: COMTRK-8049B	1 1		; !	:		:	1	: :
1 3.2.7	1 COMTRK-8065B	1		·	!		1	!	
!	1 COMTRK-8066B	1			;		-	·	1 1
3.2.8.1	CONTRK-8052A	1		1	;		y i	}	1 !
1	1	1 1		!	1		1	i	i i
	.======================================	:=:						223333333333333333	

IDENTIFIERS				ASA												
: NASA : FMEA NUMBER	I IDA ASSESSMENT NUMBER		CRIT :	SCREENS A B C	:: CRIT	SCREENS A B C	; OTHER ; (SEE LEGEND CODE)	ISSUE								
;=====================================	: COMTRK-8049C	! !	3/3 3/3			!	!	<u> </u>								
i i 3.2.9	! COMTRK-BOSEC		3/3 1		11 7	! !	1	:								
! UEZE?	1 COMTRK-8066C		3/3		11 /	1	1	1								
3.3.1	CONTRK-8006L	!!	3/3		11 /	1	1	I								
; ;	: COMTRK-8007L	1 [3/3		11 /	3	<u>1</u>	!								
1 3.3.2	: CDMTRK-8004N		3/3		11 /	!	!	1								
	: CONTRK-BOO7M		3/3		11 /	}	;	¦ 3								
3.3.3.1	: COMTRK-8007N		3/3 3/3			i I	1	!								
: 3,3,3,2 : 3,3,4	: COMTRK-80070 : COMTRK-8007P	11	3/3 1		11 /	!	!	1								
: 3.3.5	1 COMTRK-80079		3/3 1		11 /		- 1 1	1								
1 3.3.6.1	: CDMTRK-8045D		3/3 1		11 /	1	!	!								
† 1	COMTRK-8047D		3/3		11 /	i	1									
3.3.6.2	: COMTRK-8046B		3/3		11 /	t		!								
¦	! CONTRK-BO48B		3/3		11 /	!	1	1								
3.3.6.3	CONTRK-28391X	11	3/3 1		11 / 11 /	i 1	i	i !								
1	CONTRK-8045E CONTRK-8047E	11	3/3 1 3/3 1		11 /) !	!	1								
: : 3.3.6.4	1 COMTRK-28392X	1 ;	3/3		11 /	1	! !									
. 0101011	CONTRK-8045F		3/3		11 /	1	1	}								
1 1	: COMTRK-8047F	1 1	3/3		11 /	;	1	!								
3.3.7	: CONTRK-BO65D	11	3/3		11 /	1 -	1	1								
	1 COMTRK-BO66D		3/3		11 /		1	!								
3.3.8.1	COMTRK-8046C		3/3 !		11 /	i	!	;								
7703	: CDMTRK-8048C : CDMTRK-80456	11	3/3 3/3			i !	i !	!								
1 3.3.8.2	1 COMTRK-80476	; ;	3/3		11 /	1	1	;								
! 3.3.9	COMTRK-8065E	11	3/3 1		ii i	!	1	!								
1	: COMTRK-BOAGE) ! 1 i	3/3		11 /	t \$! i								
1 3.5.1	: COMTRK-BO65F	1 1	3/3		11 /	3 1	!	1								
! !			3/3		11 /	1	1	1								
3.5.10	CONTRK-80450	11	3/3 1		11 /	†	1	i								
1 1 1	1 COMTRK-8066D	1 1	3/3		H / H /	•	į	1								
; 3.5.2 !	: CONTRK-80456 : Contrk-80666	11	3/3		II = I	i !	·	!								
; ; 3.5.3	CONTRK-BOASH	11	3/3		;;	; ;		1								
1	: COMTRK-BOAGH	11	3/3		11 /	1	!	:								
3.5.4	: CDMTRK-BOA5I	11	3/3		11 /	i i	!	1								
1	: COMTRK-BO66I	11	3/3		11 /	1	!	!								
1 3.5.5	L CONTRK-8065J	11	3/3 1		11 /	i	1	i								
: : 7 E (COMTRK-BO66J	11	3/3			i !	i !	<i>t</i> !								
3.5.6	: COMTRK-BO65K : Comtrk-Bo66K	11	3/3 i		$egin{array}{cccc} eta & I & I & I \end{array}$	1	!	1								
1 3.5.7	COMTRK-8065L	11	3/3 :		$\frac{1}{11}$ $\frac{T}{T}$	1	!	*								
	: COMTRK-8045L	11	3/3		11 1	F	i .									
1 3 .5. 8	COMTRK-3065N	: 1	3/3 1		ii /	i	Ť									
] 	: COMTRK-8066M	11	3/3		11 /	;	!	!								
: 3.5.9	: COMTRK-8065N	11	3/3		11 /	1		i								
1	COMTRK-8066N	11	3/3		11 /	i	i									
1 	i	1 1	i	i	1 1	i	1	•								

IDENTIFIERS		11.		6A				: IOA RECOMMENDATIONS *											
NASA FMEA NUMBER	: IDA : ASSESSMENT NUMBER	:: CRIT	: ;	A	B	C	11	CRIT :	A	B	0 3	OTHER (SEE LEGEND CODE)	ISSUE =====						
::::::::::::::::::::::::::::::::::::::	COMTRK-8032	11 3/3					11	/ :			; }		1						
1.1.1	: COMTRK-8013	11 2/2	2 ;				† I	/ }			1		;						
1.1.2	COMTRK-B013A	11 2/2	2				11	1			;		1						
1.1.3.1	: COMTRK-8013B	11 2/3	2 1				1 I 1 I	/ }			ł		i						
4.1.3.2	CONTRK-B0130	11 3/3	3 !				H	7			1		1						
4.1.4	COMTRK-8013L	11 3/	lR I	P	P	P	11	/				!	1						
4.1.5	: COMTRK-8013I	11 2/	IR I	P	P	P	! !	/ }			1		1						
4.1.6.1	: CDMTRK-B043	11 2/3	2 1				11	/			,	<u>;</u>	1						
4.1.6.2	: CDMTRK-8044	11 2/2	2 1				1 1	/ :			;		1						
4.1.6.3	: CDMTRK-28387X	11 3/3	3 :				;;	- / - :					1						
	L CONTRK-8043B	11 3/3	3 ;				11	/ 1					1						
4.1.6.4	: CONTRK-28388X	11 2/3	2				; ;	3/2R	P	P	P	1	i X						
	COMTRK-8043A	11 2/3	2 1					1					1						
4.1.7	: COMTRK-8027	11 2/	LR :	P	P	P	1 1	1	!				!						
4.2.1	CONTRK-B013C	11 2/3	2 !				11	/					ŧ						
4.2.1.1	CDMTRK-B018C	11 2/					11	2/1R	P	P	P	1 1	i X						
4.2.1.2	CONTRK-8018D	11 2/					11	2/1R	P	P	P	1 1	1 1						
4.2.2	: CDMTRK-B013D	11 2/					! !	1	!			[]	1						
4.2.2.1	CDMTRK-8018E	11 2/					!!	2/1R	P	P	P	1 1	! X						
4.2.2.2	COMTRK-8018F	11 2/					! }	2/1R	P	P	Ρ	1 1	i X						
4.2.3	CONTRK-8018G	11 2/					11	2/1R	P	ρ	P	1 1	i i						
4.2.3.1	CDMTRK-8013E	11 2/				′	11	1	ť			! !	1						
4.2.3.2	CDMTRK-8013P	11 3/					11	1.				i 1	1						
4.2.4	CONTRK-BO13M		1R	P	P	Р	11	1	1			5 1	i i						
4.2.5	CONTRK-8013J		1R 1	p	P	P	!!	1	•			1 1	!						
4.2.6.1	COMTRK-B063	11 2/					11	1	1			1 F	1						
4.2.6.2	CCMTRK-8064	11 2/					11	1	ì			; 1	į						
4.2.6.3	: COMTRK-28401X	11 3/					1;	1	,			i t	}						
7121010	COMTRK-8063B	11 3/					1 !	1	1			3 1	i I						
	: CDMTRK-8063C	11 3/					1 t	1	1			† \$;						
4.2.6.4	COMTRK-28402X	11 2/	-				11	3/2R	l P	P	P	1 1	; X						
7121017	COMTRK-8063A	11 2/					1 3	1	I I			!	;						
4.2.7	COMTRK-8027A		1R	Р	ρ	ρ	11	1	I I			1 1	1						
4.2.8.1	CONTRK-8064A	11 2/					1 1	1	!			î i	* i						
4.3.1	; CONTRK-B013F	11 2/					1 2	1	1			; ŧ	1						
4.3.2	CDMTRK-80138	11 2/					11	1	}			1	!						
4.3.3.1	CDMTRK-8013H	11 2/					!!	I	!			i i	1						
4.3.3.2	CDMTRK-80130	11 3/				~	11	1	;			1	!						
4.3.4	CONTRK-8013N		IR :	P	P	P	11	1	1			1	1						
4.3.5	! COMTRK-8013K		1R :			-	11	1	1 1			¦	1						
4.3.6.1	COMTRK-8045H	11 2/		•	•	•	11	Ì	1				1						
1101011	COMTRK-B047H	11 2/						Ì	1			1	}						
4.3.6.2	COMTRK-BO46D	11 2/					11	1	!			Į. I	1						
TIJIVIL	COMTRK-8048D	11 2/					11	Ī	!			1	Ĭ						
4.3.6.3	EDMTRK-28393X	11 3/					11	1	3 1			b i	1						
Tid:Did	COMTRK-BO45J	11 3/					! }	1	}			1	!						
	: CONTRK-8047J	11 3/					11	1	1			;	1 i						
4.3.6.4	: COMTRK-28394X	11 2/					11	3/2R] P	р	P	1 1	1 1						
4.0.0.4	: CDMTRK-8045I	11 2/					11	37 EK	!	•	•	!	1						
	: CDMTRK-8047I	11 2/					11		· }			•							
	1 LUMIANTOV4/1	11 4	4 1				1	,	,			*							

IDENTIFIERS			NASA			 -!	IOA RECOMMENDATIONS #										
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT	l A	8	C	I	HW/F	SCREENS	(SEE LEGEND CODE)	: ISSUE							
•		 2/1R		_	_	ŀ	1 /	L	• ! !	, 							
4.3.8.1	CDMTRK-8046E	11 2/2	1			ĭ	1	1	¦	[
!	CCMTRK-BO4BE	11 2/2	ì			I		t t	1	i i							
		11 3/3	1			i		1									
		3/3	1	_	_	1											
4.4.1.1		11 2/1R		٢	٢	1		1		i •							
		11 2/1R		ь	Б	;		i •	i 1	i :							
	= =	2/1R 2/18		٢	r,	1		j 1	! !	1 1							
		:: 2/1R		P	P	1		1 }	! !	! !							
		11 2/1R		1	,	1		• !	1	! !							
		11 2/1R		p	Р	!		!	' 	!							
		2/1R		,	•	1 1		!	, 	,							
		1 2/1R		Р	P	1		- [1							
	CONTRK-8028D	1 2/1R				1	1			<u>:</u>							
		11 3/3	ì			1	1	; ;	1	i i							
	CONTRK-8027E	1 3/3	t			1 !	1	1		E.							
4.4.4.2	CDMTRK-28380X	11 2/1R	1 P	P	P	1	3/2R	1		i							
	CONTRK-8027C	1 2/1R	! P	P	P	1	/	}		1							
5.1.1		11 2/2	;			1		1		i T							
		1, 2/2	1			1											
		2/2	1			1		1	•	<u>}</u>							
	•	1 3/2R		•	ò												
		11 3/2R	} P	P	P	1 1		:									
	•	1 2/2				11			1	; !							
		1 2/2	i			1 1		i r	•	i							
		1 2/2	i			1 1		i 1	i I	i I							
		3/3 3/3	1			11		1 1 :	! 								
		1 2/2	!			1 1		;	 	X							
i UržiDi"! !		1 2/2	1			11		!	•								
5.2.1		2/2	:			1 1											
		1 2/2	!			1 1		* 1 !									
5.2.3.1		1 2/2	:			11		: !									
		1 3/2R	i P	P	P	! !	/	!	,								
	CDMTRK-8012M :	1 3/2R	1 8	P	P	1 1	1										
5.2.5	CONTRK-80125	1 2/2	1			1 1	1 /	;									
5.2.6.1	COMTRK-8061	1 2/2	ŀ) 			1	+							
5.2.6.2		1 2/2	1,	9	_	1 1											
		1 3/3	i			[]			;								
		3/3	1			11											
		2/2	!			11		PPP	1	X							
		1 2/2	!			11			•								
	·	1 2/2	i ,			1 1		i :									
		1 3/3	ì			1 4		i i	<u>i</u> :	:							
		1 2/2	i			11		l :	, •	:							
		1 2/2	1			11		i ! !	i !								
	w.,	1 3/2R	! p	p	P	11		, !	·								
		1 3/28			•			•									
! ಆಕಾರ್ಕ್ !		1 27 LW	; ; }	'	,	1 1											
. 222222222222222222222	, 	:======	· :====	===	===:	, , ===		:==25222222	' 								

IDENTIFIERS			NA	SA			}} 	IDA RECOMMENDATIONS +											
NASA FMEA NUMBER	; IOA ASSESSMENT NUMBE	R !!		A	B	C	11	CRIT HW/F	SCRI		: DTHER : (SEE LEGEND CODE)	ISSUE 							
5.3.5	COMTRK-8012K	!!	2/2				11	1	1		!	1							
5.3.6.1	CDMTRK-BO45L	11		,			1 1	I				1							
	: COMTRK-8047L	1 1	2/2				11	1				i							
5.3.6.2	: CDMTRK-8046F	1 1	2/2	;			11	1	ł			i							
	: COMTRK-8048F	11	2/2	i ;			; ;	1	ì		1	i							
	: CDMTRK-80486	11	2/2	} }			1 1	1	1		1	i							
5.3.6.3	: CDMTRK-28395X	11	3/3	!			[]	1	ł			i							
	: COMTRK-8045N	11	3/3	1			11	1	1			i							
	: COMTRK-80450	11	3/3	1			; ;	1	!		1	i							
	: CDMTRK-BO47N	1:	3/3	ŀ			11	1	ł		1	i							
5.3.6.4	COMTRK-28396X	[]	2/2	1			11	3/2R	i P	P P		; X							
	: CONTRK-BO45M	1 1	2/2	į			; ;	Į	1			i							
	1 COMTRK-8047M	11	2/2	ļ			H	1	i		1								
5.3.7.1	: CDMTRK-80466]	2/2	1			11	1	}		1	1							
5.3.7.2	: CDMTRK-80470	11	3/3	ì			11	1	1		1	1							
6.0.1	: COMTRK-8092) 1	2/1R	l P	P	P	;;	1	Ī		!	Ţ							
01411	COMTRK-B094	11	2/1R	۱ ۲	P	P	-}-}	1	1		}	ì							
6.0.2	COMTRK-8091	13	2/1R	i P	Ρ	P	1 1	. /	i		1	1							
0.0.2	COMTRK-BO93	11		! P	P	P	! !	1	1		!	i i							
6.0.3	COMTRK-8091B	[]		1			- 11	1	!		!	;							
0.0.3	CONTRK-8093B	13		1			11	1	1		1	i							
	COMTRK-80928	1					1 1	1	i 1		1	ł							
6.0.4	COMTRK-8094B	11		:			11	1	i		1	1							
6.0.5	: CONTRK-8092A	1		! P	P	P	11	1	1		}	;							
0.0.7	COMTRK-8094A	:			p	Þ	11		ì) 1	!							
1 A L	; CDMTRK-8091A	1			P	P	11		;			i 1							
6.0.5	; COMTRK-8093A					P	11		1		1	į							
7	COMTRK-BO91C	1		!	•	•	11		!		1	-							
6.0.7	COMTRK-B093C	;		!					1		1	1							
	: CDMTRK-8073C	1		!			11		1			1							
6.0.8	1 CONTRK-8094C			•			11				1	1							
/BB 51501 1		;		! P	P	P	11		•		1	3 1							
6PS-21201-1	COMTRK-1521	,			-				· •		, !	1							
-	: CBMTRK-1522 : CBMTRK-8067 -	!					1 !		!		1	ļ							
7.1.1					F	i	11				; }	f i							
	: COMTRK-806B	;			р	Р	11		•		!	}							
7.1.10	COMTRK-B067I	;			7	Г	1 1		1			1							
	COMTRK-80681				P	p	11		!		!	1							
7.1.11	: COMTRK-BOA7J	;			r	r	1		1		!	ì							
	COMTRK-8068J				. 5:				1		, !	i							
7.1.12	COMTRK-8067K				۲	r			!		, 	1							
	CONTRK-8068K		1 3/1R 1 3/1R			Б			! !		· !	1							
7.1.13	COMTRK-8067L				r	۲	1		1		•	i							
	COMTRK-806BL		1 3/1R						,		i I	:							
7.1.14	: COMTRK-BO67M		1 3/3	i ,			1		,		! \$	1							
	CONTRK-8068M		1 3/3	:			1	i 1			ŧ i	:							
7,1,15	: CCMTRK-8067N		1 3/3				:		:		i	:							
	COMTRK-3068N		3/3				!		i		i	1							
7.1.2	L COMTRK-BO67A		1 3/1R		' F	, P			i		i	t I							
1	: COMTRK-8068A		1 3/1R			_	1		ì		i	i 1							
7.1.3	: COMTRK-8067B		1 3/1R	1 5) F	i p			1			i							
!	1	5 1	i	i			ì	i I	1		į	i							

IDENTIFIERS :		 }		NA	SA			 	IOA RECOMMENDATIONS *									
: NASA : FMEA NUMBER	1	IDA ASSESSMENT NUMBER				50 A	REE B	NS C		CRIT	; s	CREE 1 B	NS C	! !	OTHER (SEE LEGEND CODE)		SSUE	7
1 7.1.3	1	COMTRK-8068B	-,, 	3/1R					-11	, 	·,			-, <u>-</u>		., ==		- 1
1 7.1.4	1	CONTRK-8067C	;;	3/1R	1	P	P	Ρ	1 1	/	ŀ			ŗ		1		1
! !	!	COMTRK-8068C	$\{\}$	3/1R	1				П	1	}			1		ł		1
1 7.1.5	1	CONTRK-8067D	; ;	3/1R	;	P	P	P	; ;	1	1			ľ		:		ŧ
1	ł	CONTRK-8068D	11	3/1R	1					/	!			i		1		;
1 7.1.6	1	CONTRK-8067E	Н	3/1R	1	P	P	P	! !	1	;			1		ŗ		ĭ
! !	ł	COMTRK-8068E	11	3/1R	i				1 1	1	I			ŀ		ī		į
1 7.1.7	¦	COMTRK-BO67F	11	3/1R	1	P	Ρ	P	11	1	!			Ţ		!		i
1 1	1	COMTRK-8068F	11	3/1R	ŀ				!!	1	1			Ī		Į Į		į
1 7.1.8	ŀ	CDMTRK-80676	! !	3/1R	;	P	P	P	11	/	;			!		!		i
) •	i	COMTRK-8068G	!!	3/1R	1				! ;	1	:			1		I I		I
1 7.1.9	1	COMTRK-8067H	11	3/1R	;	P	P	P	1 1	1	1			!		I		i
} 	i	CONTRK-8068H	\mathbb{H}	3/1R	¦				11	1	1			ŀ		1		i
: EMU-TV-1	1	CDMTRK-10004	!!	3/3	ŧ				; ;	1	ì			1		i		ì
EMU-TV-2	į	CDMTRK-10005	Н	3/3	1				11	1	ţ.			!		Į į		ļ
! EMU-TV-3	;	CDMTRK-10006	! ! ! i	3/3	ļ				; ;	1) I			1		¦		i
: EMU-TV-4A	ŀ	CDMTRK-10501	1 1	3/3	1				11	1	į			ļ		į		į
EMU-TV-5	1	CDMTRK-10001	11	3/3	1				Н	1	!			ī		I I		ļ
FMU-TV-6	1	COMTRK-10007	1 1 1 1	3/3	I				1;	1	ŀ			ŀ		į		I
: NONE	ì	CDMTRK-10002	1 1	1	i				!!	1	ł			1	?	í	X	i
<u>;</u> 1	ì	EDMTRK-10003	1 1	1	į				11	3/3	1			1 2]	i	X	!
ļ	i	COMTRK-1011	1 E	1	ĭ				1 1	3/2R	! P	NA	P	1 3		i ì	X	1
	i	CONTRK-1015	; ;	1	1				11	3/2R	i P	NA	P	1 2	}	1	X	1
}	ľ	COMTRK-1049	; ;	1	ŧ				11	1	;			1 2	2	i	X	i
	1		1 1	1	į				11	3/1R	l P	P	P	1 2	?	i i	X	į
1	1		!!	1	1				1 1	1	ì			1 2	?	1	X,	ł
i i			1 1	1	j				11	1	ł			1 2		j i	X	į
! !			11	1	į				13	3/2R	l P	NA	P	1 2	2	1	X	!
) 			1 1	1	1				1 1	1	1			1 2		i	X	ŧ
¦ ₩CCS BATTERY	i		; ;	3/3	1				1 1	1	!			}		1		i
WCCS CREW REMOTE/AUD	!	COMTRK-9091	! !	3/3	1				: :	1	i			1	_	!		ł

•

=